

Rec'd 06 JUN 2005

PCT/DK 03/00851

53/746



REC'D 13 JAN 2004

WIPO

PCT

Kongeriget Danmark

Patent application No.: PA 2003 00537

Date of filing: 08 April 2003

Applicant:
(Name and address) Novozymes A/S
Krogshøjvej 36
DK-2880 Bagsværd
Denmark

Title: Galactanase variants

IPC: -

This is to certify that the attached documents are exact copies of the above mentioned patent application as originally filed.

PRIORITY DOCUMENT
SUBMITTED OR TRANSMITTED IN
COMPLIANCE WITH
RULE 17.1(a) OR (b)



Patent- og Varemærkestyrelsen
Økonomi- og Erhvervsministeriet

07 January 2004

John Nielsen



PATENT- OG VAREMÆRKESTYRELSEN

274

08 APR. 2003

GALACTANASE VARIANTS**PVS****FIELD OF THE INVENTION**

The present invention relates to variants of galactanases of Glycoside Hydrolase Family 53, their production, and their use within the dairy industry.

5 BACKGROUND OF THE INVENTIONBackground art

The crystallization and preliminary X-ray studies of the galactanase from *Aspergillus aculeatus* is described by Ryttersgaard et al in Acta. Cryst. (1999), D55, 929-930.

SUMMARY OF THE INVENTION

10 The invention provides variants of a parent Glycoside Hydrolase Family 53 galactanase, comprising an alteration in at least one of the following positions: -6, -4, -2, 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 20, 22, 24, 25, 26, 29, 30, 31, 32, 36, 39, 40, 41, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 54a, 54e, 54f, 54g, 54h, 55, 56, 57, 58, 61, 62, 65, 69, 77, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 101, 106, 15 107, 110, 113, 114, 126, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 144, 145, 146, 147, 150, 153, 157, 159, 163, 169, 171, 172, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 191, 192, 194, 198, 200, 203, 204, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 252, 252d, 252e, 253, 20 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 273, 274, 276, 277, 280, 283, 284, 286, 288, 288a, 289, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 302a, 302d, 302j, 302k, 302m, 302n, 302o, 302q, 302r, 302s, 302t, 302u, 302v, 302x, 302y, 302z, 302aa, 302bb, 302cc, 302dd, 302ee, 302ff, 302gg, 302hh, 302il, 302jj, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 25 325, 326, 327, 328, 329, and 330; wherein (a) the alteration(s) are independently (i) an insertion of an amino acid immediately downstream of the position, (ii) a deletion of the amino acid which occupies the position, and/or (iii) a substitution of the amino acid which occupies the position; and (b) the variant has galactanase activity.

30

BRIEF DESCRIPTION OF DRAWINGS

Fig. 1 shows the coordinates for the 3D structure of a GH Family 53 galactanase from *Myceliophthora thermophila* having SEQ ID NO: 1;

Fig. 2 shows the coordinates for the 3D structure of a GH Family 53 galactanase from 35 *Humicola insolens* having SEQ ID NO: 2;

Fig. 3 shows the coordinates for the 3D structure of a GH Family 53 galactanase from *Aspergillus aculeatus* having SEQ ID NO: 3;

Fig. 4 shows the coordinates for the 3D structure of a GH Family 53 galactanase from *Bacillus licheniformis* having SEQ ID NO: 4;

5 Fig. 5 shows a multiple alignment of SEQ ID NOs: 1-4; and

Fig. 6 shows the alignment of Fig. 5 with three additional galactanase sequences added.

DETAILED DESCRIPTION OF THE INVENTION

3D-structure determination

10 The crystallization and preliminary X-ray studies of the galactanase from *Aspergillus aculeatus* (AAGAL) is described by Ryttersgaard et al in Acta. Cryst. (1999), D55, 929-930. The galactanases from *Myceliophthora thermophila* (MTGAL) and *Humicola insolens* (HIGAL) (WO 97/32014), and the galactanase from *Bacillus licheniformis* (BLGAL) (WO 00/47711) were crystallized using similar principles.

15 The 3D-structures were solved in accordance with the principles for X-ray crystallographic methods as given, for example, in X-Ray Structure Determination, Stout, G.K. and Jensen, L.H., John Wiley & Sons, Inc. NY, 1989. The structural coordinates for the crystal structure of the *Aspergillus aculeatus* galactanase (AAGAL), as determined by multiple isomorphous replacement to 1.8 Å resolution at 100 K are given in Fig. 1 in standard
20 PDB format (Protein Data Bank, Brookhaven National Laboratory, Brookhaven, CT).

The structures of the other three galactanases were solved by Molecular Replacement, using the AAGAL293 structure (to 2.3 Å resolution at 293K) as a search model. Data from 20-2.55 Å, 18-2.14 Å, and 19.67-2.60 Å were used for HIGAL, MTGAL and BLGAL, respectively, within AMoRe (J. Navaza: AMoRe: an Automated package for
25 Molecular Replacement. Acta Crystallogr., A50:157-163, 1994). The respective coordinates are given in Figs. 2-4 in standard PDB format.

Variant

30 The term "galactanase variant," or simply "variant," refers to a galactanase comprising one or more alteration(s), such as substitution(s), insertion(s), deletion(s), and/or truncation(s) of one or more specific amino acid residue(s) in one or more specific position(s) in a parent galactanase.

The total number of such alterations is typically not more than thirty, e.g. one, two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen,
35 seventeen, eighteen, nineteen, twenty, twenty-one, twenty-two, twenty-three, twenty-four, twenty-five, twenty-six, twenty-seven, twenty-eight, twenty-nine, or thirty of said alterations.

In addition, the variant of the invention may include other modifications of the parent enzyme, typically not more than 10, e.g. not more than 5 such modifications.

Nomenclature and conventions for designation of variants

5 A substitution in a variant is indicated as "original amino acid - position - substituted amino acid." The one letter code is preferably used, but it can of course be translated into the three letter code as desired. The codes X (or Xaa) may be used to indicate any amino acid residue. Accordingly, the notation "D182N" or means, that the variant comprises a substitution of aspartic acid with asparagine acid in the variant amino acid position
10 corresponding to the amino acid in position 182 in MTGAL, when the two are aligned as indicated in Fig. 5.

Where the original amino acid residue may be any amino acid residue, a short hand notation may at times be used indicating only the position, and the substituted amino acid, for example: "Position - substituted amino acid", or "182N". This notation is particular relevant in
15 connection with modification(s) in a series of homologous polypeptides, such as the galactanases of GH Family 53. Similarly when the identity of the substituting amino acid residue(s) is immaterial: "Original amino acid - position;" or "D182".

When both the original amino acid(s) and substituted amino acid(s) may be any amino acid, then only the position is indicated, e.g. "182".

20 When the original amino acid(s) and/or substituted amino acid(s) may comprise more than one, but not all amino acid(s), then the amino acids are listed, separated by commas: "Original amino acid - position no. - substituted amino acid"; e.g. "H91D,L,N".

A number of examples of this nomenclature are listed below:

The substitution of aspartic acid for asparagine in position 182 is designated as
25 D182N.

The substitution of any amino acid residue for serine in position 131 is designated as S131X, or S131.

The substitution of proline for any amino acid residue in position 29 would thus be designated X29P, or 29P.

30 For a modification where the original amino acid(s) and/or substituted amino acid(s) may comprise more than one, but not all amino acid(s), the substitution of aspartic acid, leucine, or asparagine for histidine in position 91 would be indicated by H91D,L,N; which indicates the specific variants H91D, H91L, or H91N.

A deletion of glutamic acid in position 288a will be indicated by E288a*.
35 Correspondingly, the deletion of more than one amino acid residue, such as the deletion of glutamic acid and aspartic acid in positions 252a and 252b will be designated "E252a*+D252b"

A truncation means an N- or C-terminal shortening of the complete amino acid sequence, i.e. a deletion of one, or usually more, amino acids and the N- or C-terminal end of the peptide. As regards the designation of truncated variants, the general rule for deletions may be used.

- 5 The insertion of an additional amino acid residue such as e.g. a valine after F216 is indicated by "F216FV"; or, when more than one amino acid residue is inserted, such as e.g. a valine, alanine, serine, threonine and a glycine after F216 this will be indicated as: "F216FVASTG".

10 In such cases the inserted amino acid residue(s) are numbered by the addition of lower case letters to the position number of the amino acid residue preceding the inserted amino acid residue(s). In the above example the sequences would thus be:

Parent:	Variant:						
216	216	216a	216b	216c	216d	216e	217
F	F	V	A	S	T	G	Y

- 15 Once all lower case letters from a to z (a,b,c,d,e,f,g,h,i,j,k,l,m,n,o,p,q,r,s,t,u,v,x,y,z) have been used for this purpose, double letters aa, bb, cc etc. onto zz are used, see e.g. the alignment of Fig. 5, between positions 302 and 303.

In cases where an amino acid residue identical to the existing amino acid residue is inserted, it is clear that degeneracy in the nomenclature arises. If for example a phenylalanine would be inserted after the phenylalanine in the above example this would be indicated by "F216FF".

Given that a proline is present in position 215, the same actual change could just as well be indicated as "P215PF":

	Parent:	Variant:				
25	Numbering I:	215	216	215	216	216a
	Sequence:	P	F	P	F	F
	Numbering II:			215	215a	216

Such instances will be apparent to the skilled person, and the indication "F216FF" and corresponding indications for this type of insertions is thus meant to comprise such equivalent degenerate indications.

By analogy, if amino acid sequence segments are repeated in the parent galactanase and/or in the variant, it will be apparent to the skilled person that equivalent degenerate indications are comprised, also when other alterations than insertions are listed such as deletions and/or substitutions. For instance, the deletion of two consecutive amino acids "DG" in the sequence "DGDG" from position 252b-252e, may be written as "D252b*+G252c*" or "D252d*+G252e*" or "G252c*+D252d*":

	Parent:	Variant:					
	Numbering I:	252b	252c	252d	252e	252b	252c

Sequence:	D	G	D	G	D	G
Numbering II:					252d	252e
Numbering III:					252b	252e

Variants comprising multiple modifications are separated by pluses, e.g.

5 "A90S+H91D"

representing modifications in positions 90 and 91 substituting tyrosine and glutamic acid for arginine and glycine, respectively. Thus, "A90S+H91D,N,L" designates the following variants: A90S+H91D, A90S+H91N, and A90S+H91L. Likewise, N303D,H+N305D,H,P designates the following variants: N303D+N305D; N303D+N305H; N303D+N305P; N303H+N305D; N303H+N305H, and N303H+N305P.

This nomenclature is particularly relevant relating to modifications aimed at substituting, inserting or deleting amino acid residues having specific common properties, such modifications are referred to as conservative amino acid modification(s). Examples of conservative modifications are within the group of basic amino acids (arginine, lysine and histidine), acidic amino acids (glutamic acid and aspartic acid), polar amino acids (glutamine and asparagine), hydrophobic amino acids (leucine, isoleucine and valine), aromatic amino acids (phenylalanine, tryptophan and tyrosine), and small amino acids (glycine, alanine, serine, threonine and methionine). Amino acid modifications, which do not generally alter the specific activity are known in the art and are described, for example, by H. Neurath and R.L. Hill, 1979, In, *The Proteins*, Academic Press, New York. The most commonly occurring exchanges are Ala/Ser, Val/Ile, Asp/Glu, Thr/Ser, Ala/Gly, Ala/Thr, Ser/Asn, Ala/Val, Ser/Gly, Tyr/Phe, Ala/Pro, Lys/Arg, Asp/Asn, Leu/Ile, Leu/Val, Ala/Glu, and Asp/Gly as well as the in reverse.

For the present purposes, the sequence of MTGAL (SEQ ID NO:1) has been selected as the frame of reference, meaning that all variants will be defined on the basis of the amino acid sequence of MTGAL. In particular, each amino acid residue in a galactanase sequence is assigned a number, a position, or a position number, by reference to Fig. 5 herein, viz. the number of the corresponding amino acid residue in the *Myceliophthora thermophila* galactanase backbone (MT; the uppermost line of the alignment of Fig. 5). In this context, the term "corresponding" refers to the amino acid which, according to the alignment, is in the same column as the amino acid residue in question, but in the first row designated "MT".

For example, the variant of the galactanase from *Bacillus licheniformis* (BL) which by reference to SEQ ID NO: 4 may be designated S39C will, for the present purposes, be designated S18C, because S39 of BL corresponds to A18 of MT. As another example, the variant of the galactanase from *Aspergillus aculeatus* which by reference to SEQ ID NO: 3 may be designated D182N will, for the present purposes, be designated D181N, because D182 of AA corresponds to N181 of MT. As a still further example, variant K16P of BL may

be designated *-6P, because K16P of BL corresponds to a missing or deleted amino acid in position -6 of MT, still by strict formal reference to Fig. 5.

However, if desired, the variants of the invention may also be defined by reference to their respective "own" backbone, e.g. with reference to SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO: 3, or SEQ ID NO: 4. The corresponding position numbers are easily deduced, in the same way as described above, from Figs. 5-6 or, for additional galactanase sequences, from a figure which can be prepared according to the principles described herein.

Molecular Dynamics (MD)

Molecular Dynamics (MD) simulations are indicative of the mobility of the amino acids in a protein structure (see McCammon, JA and Harvey, SC., (1987), "Dynamics of proteins and nucleic acids", Cambridge University Press). Such protein dynamics are often compared to the crystallographic B-factors (see Stout, GH and Jensen, LH, (1989), "X-ray structure determination", Wiley). By running the MD simulation at, e.g., different temperatures, the temperature related mobility of residues is simulated. Regions having the highest mobility or flexibility (here isotropic fluctuations) may be suggested for random mutagenesis. It is here understood that the high mobility found in certain areas of the protein, may be thermally improved by substituting these residues.

Variants of amended properties

Based on the 3D-structure of the galactanase from *Myceliophthora thermophila* of SEQ ID NO:1, the following variants are contemplated, in which at least one of the below-mentioned residues have been amended and/or at least one of the below-mentioned alterations have been introduced:

i) variants of an amended specific activity, within 10Å from the active site: Y4, G6, V7, D8, W9, S10, R45, Q46, R47, W49, Y77, D79, F80, H81, Y82, W86, A87, D88, P89, A90, H91, Q92, T93, S131, I132, G133, N134, E135, I136, R137, A138, G139, L140, L141, W142, G145, R146, T147, I153, L157, M176, I177, H178, L179, D180, N181, G182, W183, T187, Q188, W191, Y192, M209, G210, V211, S212, F213, Y214, P215, F216, Y217, A221, L226, I241, A242, V243, V244, E245, T246, N247, W248, F276, I277, V280, V284, G292, L293, F294, Y295, W296, E297, P298, W300, L306, G307, F329;

ii) variants of an amended activity on lactose, within 10Å from the active site: Y214S,N+N247Y+L306Q; Y214A; F216FVASTGY217; P89W+W86N;

iii) variants of an amended pH-activity profile: H91N,L,D; N313D; N303D,H; N305D,H; A90S+H91D;

iv) variants of an amended thermostability, by insertion of prolines: Y22P, N24P, T25P, A29P, A53P, N56P, T93P, D101P, W142P, T147P, Q198P, L203P, S204P, S219P, S258P, S288P, A304P, A311P, Q318P, A322P, S324P, S325P, S327P;

v) variants of an amended thermostability, by increasing surface hydrophobicity: W107S,H;

vi) variants of an amended thermostability, by amending the surface electrostatic potential: Q126E;

5 vii) variants of an amended thermostability, by disulfide bridges (double mutations to cysteines): V20C+G320C, N39C+L326C, Y110C+G163C, W150C+N194C, T274C+V328C, I301C+F316C

viii) variants of amended thermostability, by improved side-chain packing: 18F,Y,W; 12V, 80F, 82Y, 191Y,W; 213F; 18W+12V; 80F+82Y.

10 Based on the 3D-structure of the galactanase from *Humicola insolens*, the following variants are contemplated, in which at least one of the below-mentioned residues have been amended and/or at least one of the below-mentioned alterations have been introduced:

i) variants of an amended thermostability, by insertion of prolines: V20P, V25P, E29P, V41P, V50P, W53P, N56P, T94P, A96P, W142P, L169P, W185P, Q198P, M203P, A219P, 15 A221P, T222P, Q258P, A261P, D262P, S288P, N305P, A311P, A322P, S324P, S325P.

ii) variants of an amended thermostability, by disulfide bridges (double mutations to cysteines): T113C+G163C, W185C+S229C, S218C+A221C, R227C+V283C.

Based on the 3D-structure of the galactanase from *Aspergillus aculeatus*, the following variants are contemplated, in which at least one of the below-mentioned residues 20 have been amended and/or at least one of the below-mentioned alterations have been introduced::

i) variants of an amended pH-activity profile: D181N;

ii) variants of an amended thermostability, by insertion of prolines: T3P, Y20P, N24P, L25P, T29P, A31P, V50P, S53P, S56P, T93P, T94P, S96P, W142P, L144P, E146P, T147P, 25 T172P, E200P, S203P, A219P, A256P, A258P, S261P, S264P, I266P, T288P, I301P, A304P, Y318P, E324P;

iii) variants of an amended thermostability, by disulfide bridges (double mutations to cysteines): L13C+L65C, N24C+Q30C, S218C+A221C, A304C+Y318C.

Based on the 3D-structure of the galactanase from *Bacillus licheniformis*, the 30 following variants are contemplated, in which at least one of the below-mentioned residues have been amended and/or at least one of the below-mentioned alterations have been introduced::

i) variants of an amended thermostability, by insertion of prolines: K-6P, S-4P, L-2P, K1P, V20P, S26P, K29P, D31P, A54aP, G54eP, N57P, K93P, A97P, N101P, S171P, 35 S185P, T256P, N260P, N266P, D286P, E288aP, A289P, A302dP, S302yP, Y302zP, A302bbP, E302ccP, E302ggP, F305P, D311P, F318P;

ii) variants of an amended thermostability, by disulfide bridges (double mutations to cysteines): S18C+Y302qC, G40C+Q330C, V44C+A69C, I48C+A62C, N50C+D84C,

G54gC+T302xC, N56C+G302rC, A62C+G146C, K106C+A159C, K114C+A163C, E183C+G221C, T227C+A283C, A234C+V241C, Y250C+Q273C, A302aaC+A302iiC.

Additional variants of the invention which may exhibit amended properties as regards substrate binding and/or substrate specificity are listed below.

5 According to "Nomenclature for sugar-binding subsites in glycosyl hydrolases", G.J. Davis, K.S. Wilson and B. Henrissart, Biochemical Journal, Volume 321, pages 557 to 559 (1997), so-called subsites may be determined. Such subsites may be labelled from -N to +N (where N is an integer). -N represents the non reducing end and +N the reducing end of the polysaccharide. The cleavage is taking place between the -1 and +1 subsites. The principal
10 constituent of a sugar binding subsite is also called an aromatic platform. That is an aromatic residue, i.e. one of the following: W, H, Y or F.

Based on Figs. 1-4 the inventors identified subsites as follows:

For MTGAL, HIGAL and AAGAL the following subsites were identified, reference being here had to the position numbering of SEQ ID NOs 1, 2, and 3, respectively (not to the
15 corresponding residue in SEQ ID NO: 1):

Subsite -4: MTGAL none; HIGAL W53; AAGAL none.

Subsite -2: MTGAL W86, W300; HIGAL W86, W300; AAGAL W86, W301.

Subsite -1: MTGAL W296; HIGAL W296; AAGAL W297.

Subsite +1: MTGAL Y217, Y214; HIGAL Y217, Y214; AAGAL Y218, Y215.

20 Subsite +2: MT W183; HIGAL W183; AAGAL W184.

For BLGAL the following subsites were identified, reference being here had to the position numbering of SEQ ID NO: 4 (not to the corresponding residue in SEQ ID NO: 1):

Subsite -4: W363.

Subsite -3: W347.

25 Subsite -2: W115.

Subsite -1: W320.

Subsite +1: W237, Y234.

Also the residues in the near vicinity (5 Å) of the above residues may be altered and provide an amended substrate specificity and/or substrate binding. These residues are the
30 following, reference being here had to the position numbering of SEQ ID NOs 1, 2, 3, and 4, respectively (not to the corresponding residue in SEQ ID NO: 1):

MTGAL (SEQ ID NO: 1): G6, V7, D8, W9, S10, S11, V12, V13, V14, E15, E16, A18, V20, Y22, L32, L36, T43, V44, R45, Q46, R47, V48, W49, V50, N51, P52, D54, N56, Y57, Y61, Y77, D79, F80, H81, Y82, S83, D84, T85, W86, A87, D88, P89, A90, H91, Q92, T93,
35 M94, P95, G133, N134, E135, I136, R137, G139, L140, L141, W142, H178, L179, D180, N181, G182, W183, D184, W185, G186, T187, Q188, N189, G210, V211, S212, F213, Y214, P215, F216, Y217, S218, S219, S220, A221, T222, L223, S224, A225, L226, K227, S228, S229, L230, D231, N232, M233, I241, A242, V243, V244, E245, T246, N247, W248,

P249, I250, C252, P255, R256, Y257, S258, F259, P260, D262, V263, Q273, F276, I277, V280, I283, L293, F294, Y295, W296, E297, P298, A299, W300, I301, H302, N303, A304, N305, L306, G307, S308, S309, C310, A311, D312, N313, T314, M315, F316, S317, Q318, S319, G320, Q321, L326, F329.

5 HIGAL (SEQ ID NO: 2): G6, V7, D8, W9, S10, S11, V12, M13, V14, E15, E16, A18, V20, Y22, L32, L36, M43, V44, R45, Q46, R47, V48, W49, V50, N51, P52, W53, D54, G55, N56, Y57, N58, Y61, Y77, N79, F80, H81, Y82, S83, D84, T85, W86, A87, D88, P89, A90, H91, Q92, T93, T94, A96, G133, N134, E135, I136, T137, G139, L141, W142, H178, L179, D180, N181, G182, W183, N184, W185, D186, T187, Q188, N189, G210, V211, S212, F213,

10 Y214, P215, F216, Y217, S218, A219, S220, A221, T222, L223, D224, S225, L226, R227, R228, S229, L230, N231, N232, M233, V241, A242, V243, V244, E245, T246, N247, W248, P249, C252, P255, R256, Y257, Q258, F259, P260, D262, V263, Q273, Y276, I277, V280, V283, L293, F294, Y295, W296, E297, P298, A299, W300, I301, H302, N303, A304, N305, L306, G307, S308, S309, C310, A311, D312, N313, T314, M315, F316, T317, P318, S319, G320, Q321, L326, F329.

15 AAGAL (SEQ ID NO: 3): R5, G6, A7, D8, I9, S10, S11, L12, L13, L14, L15, E16, E18, Y20, Y22, L32, L36, S43, I44, R45, Q46, R47, V48, W49, V50, N51, P52, D54, S56, Y57, Y61, Y77, D79, L80, H81, L82, S83, D84, T85, W86, A87, D88, P89, S90, D91, Q92, T93, T94, P95, G134, N135, E136, I137, R138, G140, L142, W143, H179, L180, D181, D182, G183, W184, S185, W186, D187, Q188, Q189, N190, G211, V212, S213, Y214, Y215, P216, F217, Y218, S219, A220, S221, A222, T223, L224, A225, S226, L227, K228, T229, S230, L231, A232, N233, L234, V243, V244, V245, E246, T247, N248, W249, P250, C253, P256, A257, Y258, A259, F260, P261, D263, L264, Q274, F277, L278, L281, V284, V294, 25 Y295, Y296, W297, E298, P299, A300, W301, I302, G303, N304, A305, G306, L307, G308, S309, S310, C311, A312, D313, N314, L315, M316, V317, D318, Y319, T320, D322, V324, Y325, I328, L331.

BLGAL (SEQ ID NO: 4): K26, G27, V28, D29, V30, S31, S32, A35, L36, Y64, V65, R66, V67, R68, I69, W70, N71, D72, P73, Y74, G80, Y81, G82, G83, G84, N85, N86, L106, 30 D108, F109, H110, Y111, S112, D113, F114, W115, A116, D117, P118, A119, K120, Q121, K122, A123, P124, Q161, G163, N164, E165, T166, G169, A171, G172, H202, F203, T204, N205, P206, E207, T208, R211, Y212, S231, S232, Y233, Y234, P235, F236, W237, H238, G239, T240, L241, N243, L244, V261, A262, E263, T264, S265, Y266, T267, D274, G275, H276, G277, N278, T279, A280, P281, K282, N283, G284, Q285, T286, L287, N288, Q296, 35 A299, V300, V303, V317, F318, Y319, W320, E321, P322, A323, W324, I325, V327, N336, K337, L339, W340, E341, Y343, G344, S345, G346, W347, A348, T349, S350, Y351, A352, A353, Y355, D356, P357, E358, D359, A360, G361, K362, W363, F364, G365, G366, S367, A368, V369, D370, N371, Q372, A373, L374, F375, F388.

The above amino acids may be substituted with any other amino acid, e.g. any of the remaining 19 natural amino acids. In the variants of the invention, at least one of the above-mentioned residues have been amended to introduce either of the other nineteen amino acid residues. The above variants are also included in dependent claims, however in the claims they have been renumbered according to the principles outlined above, each position being assigned the number of the corresponding amino acid residue in SEQ ID NO: 1.

Alignments

The program ClustalW (CLUSTAL W: improving the sensitivity of progressive multiple sequence alignment through sequence weighting, position specific gap penalties and weight matrix choice." Julie D. Thompson, Desmond G. Higgins, and Toby J. Gibson, Nucleic Acids Research, 22(22):4673-4680 (1994)) is used for the purposes of the present invention for pairwise protein sequence alignments, multiple protein sequence alignments and protein profile alignments (version 1.82, default parameters).

For pairwise sequence comparison and calculation of percentage identity, the pairwise alignment parameters were: Slow/Accurate; Gap Open Penalty=10.00; Gap Extension Penalty=0.10; Protein weight matrix=Gonnet series; DNA weight matrix=IUB.

The consensus length is calculated automatically by the program. The number of identical residues (identified with an asterisk) is counted. The percentage of sequence identity is calculated as follows: the number of identical residues is divided by the consensus length and multiplied by 100.

The multiple alignment of Fig. 5 is based on a multiple alignment of the four sequences using Clustalw, but, importantly, it is combined with information derived from the 3D-structures, each position in each backbone being carefully evaluated, and the alignment modified by the present inventors. In other words, the multiple alignment of Fig. 5 is not a simple ClustalW multiple alignment reflecting only sequence homologies, it also reflects structural similarities.

The alignment of Fig. 5 can therefore be used to deduce corresponding variants in other backbones, and these variants are likely to also exhibit the amended property in question. For example, the above-mentioned variant A90S+H91D of MT is transferable to the other backbones or parent galactanases shown in Fig. 5 as follows: According to the Fig. 5 alignment, this variant would correspond to: A90S+H91D of HI; and A90S+K91D of BL. Because AA already has the sequence of S90D91, this variant is not relevant for AA. Another example is variant T288P of AA, which, using the alignment of Fig. 5, translates into S288P in MT and HI, and G288P in BL.

Other galactanase backbones of Glycoside Family 53 are known (see below under parents), and these can be added to the alignment of Fig. 5 as described below, and thereby corresponding variants can be deduced also for these backbones, as just described above.

For aligning a new sequence to the multiple alignment of Fig. 5, the Clustalw option called profile alignment is used as follows: The Fig. 5 multiple alignment is used as profile 1, and then the new sequence as profile 2. Then the program is asked to "Align sequence to 1st. profile," using the following parameters:

5 Multiple alignment parameters = Slow/Accurate; Gap Open Penalty=10.00; Gap Extension Penalty=0.20; Delay divergent sequences=30%; DNA Transitions Weight:0.50; Protein weight matrix=Gonnet series; DNA weight matrix=IUB; Use negative matrix=OFF;

Protein Gap Parameters: Toggle Residue-Specific Penalties=ON; Toggle Hydrophilic Penalties=ON; Hydrophilic Residues= GPSNDQEKR; Gap Separation Distance =4;
10 Toggle End Gap Separation=OFF.

In Fig. 6, as an example, three new galactanase sequences have been added to the Fig. 5 alignment. The new galactanases are added at the bottom of the alignment, as rows nos. 5, 6 and 7. The galactanases are: AT (the galactanase of *Aspergillus tubigensis*, (SEQ ID NO: 7)); BS (the galactanase of *Bacillus subtilis* (SEQ ID NO: 8)); and PF (the
15 galactanase of *Pseudomonas fluorescens* (SEQ ID NO: 9)). Thus, using Fig. 6, the above-mentioned variant A90S+H91D of MT translates into A90S+K91D of BS, and E90S+K91D of PF. Because AT already has the sequence of S90D91, this variant is not relevant for AT. Another example is variant T288P of AA, which, using the alignment of Fig. 6, translates into variants T288P of AT, G288P of BS, and G288P of PF.

20 In the alternative, alignments of sequences and calculation of degree %-identity may be done using a full Smith-Waterman alignment, useful for both protein and DNA alignments. The default scoring matrices BLOSUM50 and the identity matrix are used for protein and DNA alignments respectively. The penalty for the first residue in a gap is -12 for proteins and -16 for DNA, while the penalty for additional residues in a gap is -2 for proteins and -4 for
25 DNA. Alignment may be made with the FASTA package version v20u6 (W. R. Pearson and D. J. Lipman (1988), "Improved Tools for Biological Sequence Analysis", PNAS 85:2444-2448, and W. R. Pearson (1990) "Rapid and Sensitive Sequence Comparison with FASTP and FASTA", Methods in Enzymology, 183:63-98).

30 Parent

The term "parent galactanase," or simply "parent," refers to the galactanase on which the variant was based, and also to the galactanase with which the variant is compared and aligned.

The parent may be a naturally occurring (wildtype) galactanase, or it may in turn even
35 be a variant thereof, prepared by any suitable means. For instance, the parent galactanase may be a variant of a naturally occurring galactanase which has been modified or altered in the amino acid sequence. A parent may also be an allelic variant which is any of two or more alternative forms of a gene occupying the same chromosomal locus. Allelic variation arises

naturally through mutation, and may result in polymorphism within populations as is well-described in the art. An allelic variant of a polypeptide is a polypeptide encoded by the corresponding allelic variant of a gene.

5 Galactanase

This section is applicable to the parent galactanases, as well as the variant galactanases of the invention.

Galactanases catalyze the endohydrolysis of 1,4-beta-D-galactosidic linkages in arabinogalactans of type I and/or galactans (see the structure of rhamnogalacturonan I as
10 described in Carpita et al. in Plant J., 3:1-30, 1993).

In the present context, a galactanase is a polypeptide having galactanase activity. Galactanase activity can be measured using a substrate including 1,4-beta-D-galactosidic linkages. Examples of galactanase substrates are arabinogalactans of type I and galactans. Particularly suitable substrates are i) lupin galactan, and potato galactan (commercially
15 available from, e.g., MegaZyme, Australia); as well as ii) AZCL-galactan substrates such as AZCL-potato-galactan, and AZCL-lupin-galactan (also commercially available from MegaZyme, Australia). For the substrates mentioned under i) above, galactanase activity may be measured as release of reducing sugars, whereas for the AZCL-substrates, the galactanase activity is measured spectrophotometrically (formation of a blue colour). In a
20 particular embodiment, the galactanase assay is based on the substrate lupin AZCL galactan.

The person skilled in the art will know how to adapt assay-pH and assay-temperature to the galactanase in question. Examples of assay-pH-values are pH 2, 3, 4, 5, 6, 7, 8, 9, 10, or 11. Examples of assay-temperatures are 20, 25, 30, 35, 37, 40, 45, 50, 55, 60, 65, 70, 75,
25 80, or 90°C.

A preferred galactanase assay is described in Example 2 herein.

In a particular embodiment, the galactanase is an enzyme classified as EC 3.2.1.89, the official name of which is arabinogalactan-endo-1,4-beta-galactosidase. Alternative names are endo-1,4-beta-galactanase, galactanase, or arabinogalactanase. EC refers to Enzyme
30 Class as described at a) <http://www.chem.qmul.ac.uk/iubmb/enzyme/>, and/or in b) Enzyme Nomenclature 1992 from NC-IUBMB, Academic Press, San Diego, California, published by Academic Press for IUBMB in 1992 (ISBN 0-12-227164-5), as regularly supplemented and updated. For supplements and updates, please consult
<http://www.chem.qmul.ac.uk/iubmb/enzyme/supplements/>, giving details regarding the
35 following supplements: Supplement 1 (1993) (Eur. J. Biochem., 1994 223, 1-5); Supplement 2 (1994) (Eur. J. Biochem., 1995 232, 1-6); Supplement 3 (1995) (Eur. J. Biochem., 1996 237, 1-5); Supplement 4 (1997) (Eur. J. Biochem., 1997, 250, 1-6); Supplement 5 (1999)

(Eur. J. Biochem., 1999, 264, 610-650) : Supplement 6 (2000) ; Supplement 7 (2001); and Supplement 8 (2002).

Glycoside Hydrolase (GH) Family 53

The EC-classification referred to above is mainly based on substrate specificity of the enzymes, and does therefore not reflect the structural features of these enzymes. A classification of glycoside hydrolases in families based on amino acid sequence similarities has been proposed a few years ago; see the CAZY(ModO) site at the internet:

- Coutinho, P.M. & Henrissat, B. (1999) Carbohydrate-Active Enzymes server at URL: <http://afmb.cnrs-mrs.fr/~cazy/CAZY/index.html>; and/or Coutinho, P.M. & Henrissat, B. (1999) Carbohydrate-active enzymes: an integrated database approach. In "Recent Advances in Carbohydrate Bioengineering", H.J. Gilbert, G. Davies, B. Henrissat and B. Svensson eds., The Royal Society of Chemistry, Cambridge, pp. 3-12; Coutinho, P.M. & Henrissat, B. (1999) The modular structure of cellulases and other carbohydrate-active enzymes: an integrated database approach. In "Genetics, Biochemistry and Ecology of Cellulose Degradation", K. Ohmiya, K. Hayashi, K. Sakka, Y. Kobayashi, S. Karita and T. Kimura eds., Uni Publishers Co., Tokyo, pp. 15-23; Henrissat B., A classification of glycosyl hydrolases based on amino-acid sequence similarities. Biochem. J. 280:309-316(1991); Henrissat B., Bairoch A. New families in the classification of glycosyl hydrolases based on amino- acid sequence similarities. Biochem. J. 293:781-788(1993); Henrissat B., Bairoch A. Updating the sequence-based classification of glycosyl hydrolases. Biochem. J. 316:695-696(1996); and/or Davies G., Henrissat B. Structures and mechanisms of glycosyl hydrolases. Structure 3:853-859(1995).

Glycoside Hydrolase Family 53 is found under the entry relating to Glycosidases and Transglycosidases (or Glycoside Hydrolases).

These are particular embodiments of the GH Family 53 galactanase,

- i) it is an endo-1,4-beta-galactanase (EC 3.2.1.89);
- ii) it has a retaining catalytic mechanism;
- iii) it has Glu as a catalytic nucleophile or base;
- iv) it has Glu as a catalytic proton donor;
- v) its 3D Structure has a fold (beta/alpha)₈; and/or
- vi) it belongs to GH Clan GH-A .

For the purposes of the present invention, the below glycoside hydrolases of Family 53 are non-limiting examples of a parent galactanase:

Protein	Organism	GenBank	GenPept	SwissProt	Publication
galactanase 1	<i>Aspergillus aculeatus</i>	L34599	AAA32692.1	P48842	Christgau et al, Curr. Ge- net. 27:135-

					141(1995)
endo-1,4-beta-galactanase (GalA)	<i>Aspergillus niger</i>	AJ305303	CAC83735.1	Q8X168	-
galactanase GalA	<i>Aspergillus tubigenensis</i>	AJ012316	CAB40555.1	Q9Y7F8	Van der Vlugt-Bergmans et al, Biotechnol. Tech. 13:87-92(1999)
ORF 1	<i>Bacillus circulans</i>	L03425	AAA22259.1	P48843	SEQ ID NO:10 of WO 00/47711
ORF BH2023	<i>Bacillus halodurans</i>	AP001514 NC_002570	BAB05742.1 NP_242889.1	Q9KBA5	Takami et al, Extremophiles 3 (1), 21-28 (1999)
ORF yvfO	<i>Bacillus subtilis</i>	Z94043 Z99121	CAB08009.1 CAB15417.1	O07013 O07013 O32260	SEQ ID NO: 14 of WO 00/47711
YvfO	<i>Bifidobacterium longum</i>	AE014643 NC_004307	AAN24099.1 NP_695463.1		Schell et al, Proc. Natl. Acad. Sci. U.S.A. 99 (22), 14422-14427 (2002)
galactanase	<i>Cellvibrio japonicus</i> (<i>Pseudomonas cellulosa</i>)	X91885	CAA62990.1	P48841	Braithwaite et al, Biochemistry 36:15489-15500 (1997)
ORF CAC2570	<i>Clostridium acetobutylicum</i>	AE007755	AAK80519.1	Q97G04	Nolling et al, J. Bacteriol. 183 (16), 4823-4838 (2001)
ORF TM1201	<i>Thermotoga maritima</i>	AE001777 NC_000853	AAD36276.1 NP_229006.1	Q9X0S8	Nelson et al, Nature 399:323-329(1999)
Sequence 2 from patent US 6242237	<i>Myceliophthora thermophila</i>	AAE73520	AAE73520.1		US 6242237
Sequence 4 from patent US 6242237	<i>Humicola insolens</i>	AAE73521	AAE73521.1		US 6242237
ORF GalA	<i>Xanthomonas axonopodis</i> pv.	AE011762 NC_003919	AAM36180.1 NP_641644.1		da Silva et al, Nature 417 (6887), 459-

	<i>citri</i>				463 (2002)
ORF XAC0575	<i>Xanthomonas axonopodis</i> pv. <i>citri</i>	AE011684 NC_003919	AAM35464.1 NP_640928.1		da Silva et al, Nature 417 (6887), 459- 463 (2002)
ORF GalA	<i>Xanthomonas campestris</i> pv. <i>campestris</i>	AE012224 NC_003902	AAM40555.1 NP_636631.1		da Silva et al, Nature 417 (6887), 459- 463 (2002)
ORF GalA	<i>Xanthomonas campestris</i> pv. <i>campestris</i>	AE012483 NC_003902	AAM42894.1 NP_638970.1		da Silva et al, Nature 417 (6887), 459- 463 (2002)
ORF YPO0853	<i>Yersinia pestis</i>	AJ414145 NC_003143	CAC89700.1 NP_404474.1	Q8ZHN7	Parkhill et al, Nature 413:523- 527(2001)
ORF Y3238	<i>Yersinia pestis</i>	AE013925 NC_004088	AAM86788.1 NP_670537.1		Deng et al J. Bacteriol. 184 (16), 4601- 4611 (2002)

Additional examples of a parent galactanase of the invention are the galactanases derived from *Meripilus giganteus* (SEQ ID NO: 2 of WO 97/32013), *Pseudomonas fluorescens*, *Bacillus agaradhaerens* (SEQ ID NO: 12 of WO 00/47711), and *Bacillus*
5 *licheniformis* (SEQ ID NO: 8 of WO 00/47711).

The present invention specifically includes variants of each and every of the above specific parent galactanases of GH Family 53 corresponding to the claimed variants of MTGAL, HIGAL, AAGAL and BLGAL, such variants being derivable by adding the parent galactanase sequence in question to the Fig. 5 alignment as described above for the
10 construction of Fig. 6, and translating each MTGAL, HIGAL, AAGAL, or BLGAL variant into the parent galactanase in question, using the concept of corresponding amino acid residue as defined above.

In a first embodiment, the parent GH Family 53 galactanase is a fungal galactanase. The fungal galactanase may be derived from a yeast, or from a filamentous fungus. The
15 yeast galactanase may be derived from *Yersinia*, e.g. from *Yersinia pestis*. The filamentous fungal galactanase may be derived from a strain of *Aspergillus*, *Humicola*, *Meripilus*, *Myceliophthora*, or *Thermomyces*. Examples of these strains are *Aspergillus aculeatus*, *Aspergillus niger*, *Aspergillus tubingensis*, *Humicola insolens*, *Meripilus giganteus*, and *Myceliophthora thermophila*.

20 In a second embodiment, the parent GH Family 53 galactanase is a bacterial galactanase. The bacterial galactanase may be derived from a strain of *Bacillus*, *Bifidobacterium*, *Cellvibrio*, *Clostridium*, *Pseudomonas*, *Thermotoga*, or *Xanthomonas*.

Examples of such strains are *Bacillus agaradhaerens*, *Bacillus circulans*, *Bacillus halodurans*, *Bacillus licheniformis*, *Bacillus subtilis*, *Bifidobacterium longum*, *Cellvibrio japonicus*, *Clostridium acetobutylicum*, *Pseudomonas fluorescens*, *Pseudomonas cellulosa*, *Thermotoga maritime*, *Xanthomonas axonopodis* pv. *citri*, and *Xanthomonas campestris* pv. *campestris*.

Particularly preferred parent galactanases are those with the above-mentioned GenBank, GenPept, or SwissProt accession numbers, and those with the above-mentioned SEQ ID NO's.

Further particularly preferred GH Family 53 parent galactanases are the following:

Strain of origin	Sequence Number (herein)	Abbreviations used herein
<i>Myceliophthora thermophila</i>	SEQ ID NO: 1	MTGAL, or MT
<i>Humicola insolens</i>	SEQ ID NO: 2	HIGAL, or HI
<i>Aspergillus aculeatus</i>	SEQ ID NO: 3	AAGAL, or AA
<i>Bacillus licheniformis</i>	SEQ ID NO: 4	BLGAL, or BL

Preferred subgroups of the above are a) MTGAL, HIGAL, AAGAL; b) MTGAL, HIGAL, BLGAL; and c) MTGAL, HIGAL.

In a third embodiment, the parent galactanase has a percentage identity to SEQ ID NO: 1 of at least 25%, using the program ClustalW and the settings referred to above. In further particular embodiments, the percentage identity is at least 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, or at least 95%.

In a fourth embodiment, the galactanase variant has a percentage identity to SEQ ID NO: 1 of at least 50%, using the program ClustalW and the settings referred to above. In further particular embodiments, the percentage identity is at least 55, 60, 65, 70, 75, 80, 85, 90, 95, 97, or at least 99%.

In a fifth embodiment, the parent galactanase has a percentage identity to SEQ ID NO: 2 of at least 25%, using the program ClustalW and the settings referred to above. In further particular embodiments, the percentage identity is at least 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, or at least 95%.

In a sixth embodiment, the galactanase variant has a percentage identity to SEQ ID NO: 2 of at least 50%, using the program ClustalW and the settings referred to above. In further particular embodiments, the percentage identity is at least 55, 60, 65, 70, 75, 80, 85, 90, 95, 97, or at least 99%.

In a seventh embodiment, the parent galactanase has a percentage identity to SEQ ID NO: 3 of at least 25%, using the program ClustalW and the settings referred to above. In further particular embodiments, the percentage identity is at least 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, or at least 95%.

In an eighth embodiment, the galactanase variant has a percentage identity to SEQ ID NO: 3 of at least 50%, using the program ClustalW and the settings referred to above. In

further particular embodiments, the percentage identity is at least 55, 60, 65, 70, 75, 80, 85, 90, 95, 97, or at least 99%.

In a ninth embodiment, the parent galactanase has a percentage identity to SEQ ID NO: 4 of at least 25%, using the program ClustalW and the settings referred to above. In
5 further particular embodiments, the percentage identity is at least 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, or at least 95%.

In a tenth embodiment, the galactanase variant has a percentage identity to SEQ ID NO: 4 of at least 50%, using the program ClustalW and the settings referred to above. In
10 further particular embodiments, the percentage identity is at least 55, 60, 65, 70, 75, 80, 85, 90, 95, 97, or at least 99%.

In further particular embodiments of each of the above first to tenth embodiments, the alignment is a full Smith-Waterman alignment with the settings referred to above, preferably made with the FASTA package also referred to above.

It is to be understood that also variants of galactanases are contemplated as the
15 parent enzyme.

Preparation of galactanase variants

The galactanase variants may be prepared by any method known in the art, see e.g. Example 1 herein. Typically, a galactanase variant library is prepared. The term "randomized
20 library", "variant library", or simply "library" refers to such library of galactanase variants. Diversity in the variant library can be generated via mutagenesis of the genes encoding the variants at the DNA triplet level, such that individual codons are variegated e.g. by using primers of partially randomized sequence in a PCR reaction. Several techniques have been described, by which one can create a diverse combinatorial library by variegating several
25 nucleotide positions in a gene and recombining them, for instance where these positions are too far apart to be covered by a single (spiked or doped) oligonucleotide primer. These techniques include the use of in vivo recombination of the individually diversified gene segments as described in WO 97/07205 on page 3, lines 8 to 29 (Novozymes A/S). They also include the use of DNA shuffling techniques to create a library of full length genes,
30 wherein several gene segments are combined, and wherein each segment may be diversified e.g. by spiked mutagenesis (Stemmer, Nature 370, pp. 389-391, 1994 and US 5,811,238; US 5,605,793; and US 5,830,721). One can use a gene encoding a galactanase "backbone" (wildtype parent galactanase) as a template polynucleotide, and combine this with one or more single or double-stranded oligonucleotides as described in WO 98/41623
35 and in WO 98/41622 (Novozymes A/S). The single-stranded oligonucleotides could be partially randomized during synthesis. The double-stranded oligonucleotides could be PCR products incorporating diversity in a specific region. In both cases, one can dilute the

diversity with corresponding segments encoding the sequence of the backbone galactanase in order to limit the average number of changes that are introduced.

Methods have also been established for designing the ratios of nucleotide mixtures (A; C; T; G) to be inserted in specific codon positions during oligo- or polynucleotide synthesis, so as to introduce a bias in order to approximate a desired frequency distribution towards a set of one or more desired amino acids that will be encoded by the particular codons. It may be of interest to produce a variant library that comprises permutations of a number of known amino acid modifications in different locations in the primary sequence of the polypeptide. These could be introduced post-translationally or by chemical modification sites, or they could be introduced through mutations in the encoding genes. The modifications by themselves may previously have been proven beneficial for one reason or another (e.g. decreasing antigenicity, or improving specific activity, performance, stability, or other characteristics). In such instances, it may be desirable first to create a library of diverse combinations of known sequences. For example, if twelve individual mutations are known, one could combine (at least) twelve segments of the parent protein encoding gene, wherein each segment is present in two forms: one with, and one without the desired mutation. By varying the relative amounts of those segments, one could design a library (of size 212) for which the average number of mutations per gene can be predicted. This can be a useful way of combining mutations, that by themselves give some, but not sufficient effect, without resorting to very large libraries, as is often the case when using 'spiked mutagenesis'. Another way to combine these 'known mutations' could be by using family shuffling of oligomeric DNA encoding the known mutations with fragments of the full length wild type sequence.

The mutated DNA can be expressed by any method known in the art, see e.g. Example 1. Generally, the host cell may be a unicellular microorganism, e.g., a prokaryote, or a non-unicellular microorganism, e.g., a eukaryote.

Useful unicellular cells are bacteria such as *Bacillus*, *Streptomyces*, *E. coli*, *Pseudomonas* sp., *Lactococcus*, *Lactobacillus*, *Leuconostoc*, *Streptococcus*, *Pediococcus*, and *Enterococcus*.

Examples of eukaryote cells are non-human animal cells, insect cells, plant cells, or fungal cells. Examples of fungal cells are *Candida*, *Hansenula*, *Kluyveromyces*, *Pichia*, *Saccharomyces*, *Schizosaccharomyces*, *Yarrowia*, *Acremonium*, *Aspergillus*, *Fusarium*, *Humicola*, *Mucor*, *Myceliophthora*, *Neurospora*, *Penicillium*, *Thielavia*, *Tolypocladium*, and *Trichoderma*.

Applications

The galactanase variants of the invention are useful in animal feed, see e.g. WO 97/16982. Non-limiting examples of desirable characteristics of galactanase variants for feed applications are: High temperature stability, acid-stability and high specific activity.

The galactanase variants of the invention may also be used to prepare galacto-oligosaccharides and for hydrolysis of lactose, both of which are relevant for the dairy industry. For example, the method of Example 5 can be used for screening of galactanase variants for improved activity on lactose, in particular for improved transglycosylation and/or hydrolytic activity on lactose.

The transglycosylation reactions observed with ONPG (Example 4) can be used for screening of galactanase variants for suitable acceptor affinities. The screening may be a high-through-put screening. This provides valuable knowledge of the affinities of the individual subsites (such as subsites +1, +2, +3, +4) for various acceptors, e.g. galactose (Gal), β -1,4-galactobiose (Gal2) (Megazyme), β -1,4-galactotriose (Gal3), β -1,4-galactotetraose (Gal4), glucose (Glu), arabinose (Ara), galacturonic acid (GalA), maltose (Mal) or maltotriose (Mal3).

The results of Example 3 provides knowledge of individual subsites for galactose (-3 to +3), as well as knowledge of the tendencies to transglycosylate instead of hydrolyse substrates. This knowledge is useful for the designing of galactanase variants of desired properties.

Various references are cited herein, the disclosures of which are incorporated by reference in their entireties.

EXAMPLES

Example 1: Preparation of galactanase variants

The D181N mutation was introduced in the AAGAL encoding gene by the use of the mutagenic oligonucleotide 5'- CAT TTG GAC AAC GGC TGG AGC -3' (SEQ ID NO: 5) and the mega-priming method described by Sarkar, G., and Sommer, S.S., 1990. The "Megaprimer" Method of Site-Directed Mutagenesis. BioTechniques, 8: 404-407. The mutations D181N+S90A+D91H were introduced in a similar way.

The resulting variant genes were cloned into plasmid pHD464 as described in Dalbøge H., Heldt-Hansen H. 1994. A novel method for efficient expression cloning of fungal enzyme genes. Mol. Gen. Genet. 243: 253-260, and the correct introduction of the mutations were verified by DNA sequencing.

The A90S+H91D double mutation was introduced in the MTGAL encoding gene essentially as described above by the use of the mutagenic oligonucleotide 5'- GCC GAT CCT TCT GAT CAG ACC ATG CC -3' (SEQ ID NO: 6).

Proteins were expressed in, and secreted from *Aspergillus oryzae* essentially as described in Christensen, T., Wöldike, H., Boel, E., Mortensen, S.B., Hjortshøj, K., Thim, L., Hansen, M.T., 1988. High level expression of recombinant genes in *Aspergillus oryzae*. *Bio/Technology* 6, 1419-1422.

5 Example 2: Purification and characterization of galactanase variants

Purification of *Aspergillus aculeatus* galactanase variants

The culture supernatant from a fermentation of the *Aspergillus oryzae* strain expressing the site-directed recombinant *Aspergillus aculeatus* galactanase variant D181N (described in Example 1) was filtered through a 0.22 µm filter to remove the mycelia. 1200 ml filtrate was added ammonium sulphate to a concentration of 1.6 M, loaded onto a 50 ml butyl column equilibrated with 25 mM sodium acetate, 1.6 M ammonium sulphate pH 5.0 and eluted using a linear ammonium sulphate decreasing from 1.6 M to 0 M over 10 column volumes. Galactanase activity was measured by mixing 40 µl of fractions with 200 µl 10 mg/ml lupin AZCL-galactan (Megazyme, Australia) in 0.5 M MES pH 6.5 After about 30 min incubation at room temperature, insoluble substrate was removed by centrifugation, and absorbance of supernatant measured at 590 nm. Fractions containing galactanase activity eluted around 1 M ammonium sulphate were pooled and dialysed against 10 mM sodium citrate pH 3.5. Dialysate (400 ml) was diluted to 2000 ml with water and loaded onto a 50 ml S-Sepharose column equilibrated with 10 mM sodium citrate pH 3.5. Galactanase activity did not bind to this column and was concentrated to 80 ml on an Amicon ultrafiltration device with a 10 kDa cut off filter. The concentrate was at least 95% pure estimated from SDS-PAGE.

The culture supernatant from a fermentation of the *Aspergillus oryzae* strain expressing the site-directed recombinant *Aspergillus aculeatus* galactanase variant D181N+S90A+D91H was filtered as described above. 900 ml filtrate was added ammonium sulphate to a concentration of 1.6 M, and eluted from a 50 ml butyl column as described above. Galactanase activity was measured as described above. Fractions containing galactanase activity eluted around 0.35 M ammonium sulphate and were pooled and dialysed against 25 mM sodium acetate pH 5.5. Dialysate (200 ml) was diluted to 275 ml with water, loaded onto a 50 ml Q-Sepharose column equilibrated with 25 mM sodium acetate pH 5.5, and eluted with a linear gradient from 0 to 1 M NaCl over 10 column volumes. Fractions containing galactanase activity (around 0.8 M NaCl) were pooled and concentrated to 10 ml on an Amicon ultrafiltration device with a 10 kDa cut off filter. The concentrate was at least 95% pure estimated from SDS-PAGE.

Purification of *Myceliophthora thermophila* galactanase variants

The culture supernatant from a fermentation of the *Aspergillus oryzae* strain expressing the site-directed recombinant *Myceliophthora thermophila* galactanase variant A90S+H91D (described in Example 1) was filtered through a 0.22 µm filter to remove the mycelia. 1200 ml filtrate was added ammonium sulphate to a concentration of 1.6 M, loaded onto a 50 ml butyl column equilibrated with 25 mM sodium acetate, 1.6 M ammonium sulphate pH 5.0 and eluted using a linear ammonium sulphate decreasing from 1.6 M to 0 M over 10 column volumes. Galactanase activity was measured by mixing 40 µl of fractions with 200 µl 10 mg/ml lupin AZCL-galactan (Megazyme, Australia) in 0.5 M MES pH 6.5. After about 30 min incubation at room temperature, insoluble substrate was removed by centrifugation, and absorbance of supernatant measured at 590 nm. Fractions containing galactanase activity eluted around 1 M ammonium sulphate were pooled and dialysed against 10 mM sodium citrate pH 3.5. Dialysate (400 ml) was diluted to 2000 ml with water and loaded onto a 50 ml S-Sepharose column equilibrated with 10 mM sodium citrate pH 3.5. Galactanase activity did not bind to this column and was concentrated to 80 ml on an Amicon ultrafiltration device with a 10 kDa cut off filter. The concentrate was at least 95% pure estimated from SDS-PAGE.

Characterization of the purified variants

The pH profiles of the purified variants described above were established as follows: Galactanase activity at various pH was measured by mixing 500 µl 4 mg/ml lupin AZCL-galactan (Megazyme, Australia) in water with 500 µl buffer (50 mM sodium acetate, 50 mM potassium dihydrogenphosphate, 50 mM boric acid, 1 mM CaCl₂, 0.01% Triton X-100 adjusted to pH 2.5, 3.5, 4.5, 5.5, 6.5, 7.5, 8.5 or 9.5 with HCl/NaOH) and 25 µl purified enzyme diluted to about 0.5-2 µg/ml in water. The mixture was incubated 15 min at 37°C, insoluble material was removed by centrifugation, and absorbance in the supernatant was measured at 590 nm.

From the results shown in Table 1 below, it appears that the pH profiles have changed (the profile of the AAGAL variants D181N, and D181N+S90A+D91H have been shifted to the alkaline side; and the pH profile of the MTGAL variant A90S+H91D has been shifted to the acidic side, as compared to the wild types).

Table 1

Galactanase /	pH	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5
AAGAL		73	100	83	47	32	0	2	0
AAGAL D181N		74	99	100	87	74	35	7	0
AAGAL D181N+S90A+D91H		55	59	71	83	100	90	21	0
MTGAL		0	12	41	63	90	100	54	7
MTGAL A90S+H91D		0	8	51	75	100	95	35	4

Example 3: Activity on galactooligosaccharides**Preparation of galactotriose (Gal3), galactotetraose (Gal4), methyl-galactotrioside (MeGal3) and methyl-galactotetraoside (MeGal4)**

Galactan (lupin) was purchased from Megazyme. All solvents, reagents and TLC-plates (Silica gel 60 F₂₅₄) were purchased from Merck. ¹H NMR spectra were recorded on a Varian Mercury 400 MHz at 30°C. As reference values CHCl₃ in CDCl₃ (7.27 ppm) and HDO in D₂O (4.67 ppm) were used. Flash chromatography was accomplished using a FLASH 401 chromatography module from Biotage.

Undeca-O-acetyl galactotriose: Arabinofuranosidase treated lupin galactan (0.50 g) was dissolved in 10 mM Bis-Tris buffer pH 6.5 (50 mL) by stirring for 1 h at 37°C. BLGAL was added (250 GalU/mL) and the solution stirred for 3 h at 37°C and then 5 min at 100°C. TLC (eluent: propanol/ethanol/H₂O (7:1:2)) showed a major (Gal3) and a minor product (Gal4) both eluting below commercial galactobiose. After cooling, the solution was concentrated, dried and acetylated and worked up by standard procedures (Ac₂O/pyridine, 48 h at room temperature (rt)). The crude product was purified by flash chromatography (eluent: EtOAc/heptane 5:2) to give 0.20 g of pure Gal3 peracetate (mixture of alpha- and beta-anomer (1:2)). ¹H NMR (selected data, CDCl₃): 6.29 ppm (d, *J*_{1,2} = 3.5 Hz, H-1α), 5.63 ppm (d, *J*_{1,2} = 8.4 Hz, H-1β).

Galactotriose (Gal3): Deacetylation of the acetylated triose was accomplished by stirring overnight in methanol/NaOCH₃ (1 mL 1M NaOCH₃ in 3 mL methanol) and then neutralized by addition of Dowex 50 Wx8. Water (2 mL) was added and the resin removed by filtration. The clear solution was concentrated (freeze-drying) to give 0.10 g of solid G3. MS (MALDI-TOF): 527 (M+23, Na). ¹H NMR (selected data, D₂O): 5.20 ppm (d, *J* = 3.6 Hz, H-1α), 4.5-4.6 (3 x d, H-1β, H-1', H-1'').

Methyl deca-O-acetyl galactotrioside: The acetylated galactotriose (0.24 g) was converted into the bromide by treatment (5 h) with 30% HBr in acetic acid (2.5 mL) and CH₂Cl₂ (2 mL) at 0°C → rt. The reaction was worked up by standard procedures and concentrated to give a yellowish syrup (194 mg) of the alpha-bromo compound, which was used without further purification. ¹H NMR (selected data, CDCl₃): 6.57 ppm (d, 1H, *J*_{1,2} = 3.8 Hz, H-1). The bromo-glycoside (0.19 g, 0.20 mmol) was converted into the methyl glycoside by overnight

treatment with Ag_2CO_3 (60 mg, 22 mmol) in dry methanol (10 mL) (under nitrogen). After work up, the methyl glycoside was purified by flash chromatography (eluent: EtOAc/heptane (3:1)) to give 30 mg of pure compound (colorless oil). ^1H NMR (selected data, CDCl_3): 4.48 ppm, 4.39 ppm and 4.35 ppm (3xd, 3H, $J_{1,2} = 8.0$ Hz, H-1, H-1' and H-1''), 3.47 ppm (3H, s, OCH₃).

Methyl galactotrioside (MeGal3): The acetylated methyl glycoside (30 mg) was deacetylated as described above to give 10 mg of syrupy material.

Galactotetraose (Gal4): This was prepared as described for Gal3 using 100 GalU/mL. Yield of final deacetylated product: 17 mg.

Methyl galactotetraoside (MeGal4): This compound was prepared in analogy with MeGal3 and 41 mg of MeGal4 was obtained from 1 g of galactan. MS (MALDI-TOF): 704 (M+23, Na).

Activity of HIGAL, MTGAL, AAGAL and BLGAL on galactooligosaccharides

The activity on the galacto-oligosaccharide substrates prepared as described above and on the commercially available galactobiose (Gal2, Megazyme) was studied for the four purified galactanases HIGAL, MTGAL, AAGAL and BLGAL. The buffers and temperatures used were: 25 mM sodium acetate, 0.5 mM CaCl_2 , 0.005 % Triton X-100, pH 6.5 at 37°C for HIGAL and MTGAL, 50 mM sodium acetate, 1 mM CaCl_2 , pH 4 at 30°C for AAGAL and 50 mM Mes, 1 mM CaCl_2 , pH 6.5 at 30°C for BLGAL. Enzyme concentrations used were 0.8 µg/ml for HIGAL, 0.2 µg/ml for MTGAL, and 10 µg/ml for AAGAL and BLGAL. With HIGAL and MTGAL substrate concentrations were all 0.25 mg/ml, whereas 0.34 mg/ml Gal2, 0.050 mg/ml Gal3 and 0.067 mg/ml Gal4 were used for AAGAL and BLGAL. Enzyme activity in samples withdrawn after various incubation times was inactivated by heating to 95°C for 10 min. Compositions of reaction products were analysed using HPAE-PAD (Dionex) applying a PA-100 column and a linear gradient of sodium acetate (0-0.18 M) in 0.15 M NaOH. Response factors of the individual carbohydrates were estimated from reference runs with MeGal3, MeGal4, Gal, Gal2, Gal3 and Gal4. Selected results are shown in Tables 2-8 below (the figures indicating weight percentage of galactooligosaccharides).

Neither of the enzymes HIGAL, MTGAL, AAGAL or BLGAL had any detectable activity on Gal2 in 24 hours. HIGAL, MTGAL and AAGAL degraded Gal3 to Gal2 and Gal, whereas BLGAL had no visible activity on Gal3 after 24 hours. Incubation of HIGAL and MTGAL with MeGal3 (See Tables 2 and 3) gave much higher release of MeGal than MeGal2, indicating that Gal is released from the reducing end of Gal3 with both enzymes.

HIGAL and MTGAL degraded Gal4 (also containing about 40% Gal3) (Tables 4 and 5) mainly to Gal and Gal2, whereas Gal3 did not accumulate. Results for HIGAL and MTGAL with MeGal4 (Tables 6 and 7) gave initial release mainly of MeGal, MeGal2 and Gal3 and some Gal2 but little Gal, again indicating that Gal is released mainly from the reducing end of Gal4. The production of Gal from MeGal4 in the later stages of the hydrolysis may be mainly due to hydrolysis of transglycosylation products with no methyl group at the reducing end. BLGAL degrades galactotetraose mainly to galactose and galactotriose. With MeGal4 the main products from BLGAL were MeGal and Gal3, indicating that Gal is released from reducing end of Gal4. With AAGAL the initial products from galactotetraose are about equimolar amounts of galactose, galactobiose and galactotriose, but subsequently the galactotriose is degraded to galactobiose and galactose.

Table 2: Degradation of MeGal3 with HIGAL

Incubation time (hours)	0.0	0.5	2.2	5.0	72.0
Gal	0.0	0.0	2.3	3.0	17.1
Gal2	0.0	3.9	12.5	20.2	36.2
Gal3	0.0	1.2	3.3	10.6	8.0
MeGal	0.0	11.4	18.4	36.8	34.6
MeGal2	0.0	3.3	3.7	5.2	4.2
MeGal3	100.0	80.3	59.7	24.2	0.0

Table 3: Degradation of MeGal3 with MTGAL

Incubation time (hours)	0.0	0.5	2.2	5.0	72.0
Gal	0.0	0.0	14.1	2.2	6.5
Gal2	0.0	0.0	8.5	10.9	37.2
Gal3	0.0	0.0	0.4	15.7	23.2
MeGal	0.0	10.1	27.6	17.4	28.3
MeGal2	0.0	2.7	1.9	3.2	3.5
MeGal3	100.0	87.2	47.5	50.6	1.3

Table 4: Degradation of Gal4 with HIGAL

Incubation time (hours)	0.0	0.5	2.2	5.0	72.0
Gal	0.0	5.8	16.7	35.6	65.2
Gal2	0.0	8.1	21.9	34.8	33.6

Gal3	42.0	43.2	39.8	23.9	0.9
Gal4	58.0	42.9	21.6	5.7	0.2

Table 5: Degradation of Gal4 with MTGAL

Incubation time (hours)	0.0	0.5	2.2	5.0	72.0
Gal	0.0	11.6	14.9	29.2	54.9
Gal2	0.0	9.9	17.4	29.1	43.5
Gal3	42.0	27.7	45.5	29.5	1.5
Gal4	58.0	50.8	22.3	12.1	0.0

Table 6: Degradation of MeGal4 with HIGAL

Incubation time (hours)	0.0	0.5	2.0	5.0	24.0
Gal	0.0	2.3	1.6	7.4	26.4
Gal2	0.0	6.3	5.0	13.8	25.3
Gal3	0.0	20.6	16.0	19.7	9.1
Gal4	0.0	3.3	3.2	3.2	1.7
MeGal	1.6	12.1	10.5	16.6	19.1
MeGal2	4.7	12.6	13.2	16.1	13.4
MeGal3	14.8	17.2	18.4	15.5	5.0
MeGal4	79.0	25.5	32.1	7.6	0.0

5

Table 7: Degradation of MeGal4 with MTGAL

Incubation time (hours)	0.0	0.5	2.0	5.0	24.0
Gal	0.0	0.9	4.8	12.4	24.2
Gal2	0.0	3.3	10.9	20.1	32.7
Gal3	0.0	13.7	23.9	17.9	3.4
Gal4	0.0	2.5	3.7	2.9	1.1
MeGal	1.6	8.9	16.2	19.3	20.1
MeGal2	4.7	9.6	13.6	13.9	13.3
MeGal3	14.8	17.1	16.0	9.9	2.3
MeGal4	79.0	43.9	10.9	3.5	2.9

Example 4: Activity with o-nitrophenyl- β -D-galactopyranoside (ONPG)

The activity of HIGAL and MTGAL with ONPG was tested by mixing 200 μ l (normally 5.5 mg/ml) ONPG in 50mM sodium acetate, 1 mM CaCl_2 , 0.01% Triton X-100, pH 6.5 with 25 μ l galactanase (normally 1 mg/ml) in the well of a microtiter plate. Release of o-nitrophenol (ONP) was measured at room temperature at 405 nm every 10 seconds normally for 30 min on a SpectraMaxPlus (Molecular Devices). Effects on the observed release of ONP was studied with varied enzyme concentration, ONPG concentration and with addition of galactose (Gal), β -1,4-galactobiose (Gal2) (Megazyme), β -1,4-galactotriose (Gal3), β -1,4-galactotetraose (Gal4), glucose (Glu), arabinose (Ara), galacturonic acid (GalA), maltose (Mal) or maltotriose (Mal3).

In Tables 8-11 below, incubation times required to increase the observed absorbance at 405 nm by given amounts are listed. Cells marked 'n.r.' indicate that the increase in absorbance was not reached in the experiment. In general, the initial increase in absorbance at 405 nm was very slow, but after a lag phase the rate of ONP release often increased drastically – often approximately exponentially. The most likely explanation for the observed kinetics is that ONPG reacts with the enzyme to give an enzyme-galactosyl intermediate which hydrolyses very slowly. Instead, the Gal of the intermediate is released by transglycosylation, initially with ONPG or added sugar as acceptor. In cases where the rate of ONP release increases, these transglycosylation products are even better acceptors than the initial ones. As seen in Table 8, the rate of ONP release is about proportional to the amount of added enzyme. HIGAL releases ONP faster than MTGAL at identical enzyme dosage. Addition of Gal (5 mg/ml) is seen to slow the ONP release by about a factor of two for MTGAL and a factor of three for HIGAL. Probably, Gal does not significantly slow formation of the enzyme-galactosyl intermediate, which would accumulate even if Gal had high affinity for the -1 or +1 subsite. More likely, Gal inhibits the subsequent transglycosylation, which requires binding of ONPG to the +1 and +2 subsites, e.g. by binding to the +2 subsite. With 50 mg/ml Gal added (results not shown) release of ONP was even slower with only insignificant increase of absorbance at 405 nm in 30 min.

The results in Table 9 show that rate of ONP release is similar with 5 and 10 mg/ml ONPG but slower at 2.5 and especially 1.25 mg/ml ONPG. This indicates that the rate-limiting transglycosylation reaction with ONPG as acceptor has a K_m of about 3 mg/ml.

In Table 10 effects of adding 0.5 or 0.05 mg/ml Gal2, Gal3 or Gal4 are given. Contrary to Gal each of these three galactooligosaccharides increases the rate of ONP release. The initial ONP release rates indicate that Gal4 is more efficient than Gal3 as acceptor, and that Gal3 is more efficient than Gal2. With Gal2 and Gal3, ONP release rate increases significantly with incubation time, indicating that transglycosylation products (initially Gal3 and Gal4, respectively) are more efficient acceptors than the added sugars, whereas the release rate is relatively constant with Gal4. These results indicate that HIGAL possesses four significant subsites (+1,+2, +3,+4) on the reducing side of the cleaved bond.

In Table 11 results upon addition of Glu, Ara, Mal, Mal3 and GalA are given. As experiments were run on three different days, and ONP release rate even in identical experiments had been seen to vary slightly (possibly due to variants in temperature), results with only ONPG and HIGAL added run in the same three experiments are shown. It is seen that 5 mg/ml Ara inhibits the transglycosylation, resulting in about three times slower ONP release. 5 mg/ml Glu also has slight inhibitory effect, whereas 50 mg/ml Glu (results not shown) resulted in very little ONP release (<0.02) in 30 min. As with Gal, this indicates binding of these sugars to subsites in the enzyme-galactosyl intermediate, which prevents ONPG to act as acceptor and where the sugars themselves also has little or no acceptor function. With 5 mg/ml Mal or Mal3 no significant effects on ONP release are observed. 5 mg/ml GalA has weak inhibitory effect, whereas 50 mg/ml GalA slows ONP release by about a factor two. From these results ranking of the inhibitory effect of the tested sugars is: Gal ~ Ara > Glu > GalA > Mal = Mal3 = 0.

Using HPAE-PAD chromatography (Dionex LC-500 System, PA-100 column, linear gradient of 0-0.6 M sodium acetate in 100 mM NaOH), the production of larger oligosaccharides from transglycosylation upon incubation of HIGAL (110 μ g/ml) at room temperature (0.5 to 14 min followed by heat inactivation for 10 min at 95°C resulting in A_{405} : 0.15-0.67) in 50 mM sodium acetate, 1 mM CaCl_2 , 0.01% Triton X-100, pH 6.5 with ONPG (5 mg/ml) with and without Gal2 (0.05 mg/ml) or Gal3 (0.05 mg/ml) as acceptor was verified.

Table 8: Rate of ONP release, MTGAL and HIGAL in varying dosages, and +/- sugar

Enzyme: µg/ml	MTGAL: 110	MTGAL: 55	MTGAL: 28	MTGAL: 110	MTGAL: 55	HIGAL: 110	HIGAL: 55	HIGAL: 28	HIGAL: Gal: 5	HIGAL: Gal: 5	HIGAL: 55
ONPG (5 mg/ml)											
Sugar: mg/ml											
Time (min) to in-crease A405 by:	0.025	14.0	29.9	40.4	26.9	40.2	9.0	20.4	41.4	32.0	57.0
	0.05	20.5	42.5	n.r.	44.5	n.r.	10.3	22.9	46.5	35.7	n.r.
	0.1	26.4	54.5	n.r.	n.r.	n.r.	11.5	25.4	51.0	41.5	n.r.
	0.2	31.4	n.r.	n.r.	n.r.	n.r.	12.7	28.0	56.5	46.7	n.r.
	0.4	34.5	n.r.	n.r.	n.r.	n.r.	13.8	30.9	n.r.	52.7	n.r.
	0.8	39.2	n.r.	n.r.	n.r.	n.r.	15.0	32.0	n.r.	59.0	n.r.
	1.6	43.9	n.r.	n.r.	n.r.	n.r.	15.0	35.0	n.r.	n.r.	n.r.
	3.2	46.7	n.r.	n.r.	n.r.	n.r.	17.7	37.9	n.r.	n.r.	n.r.

Table 9: Rate of ONP release at varying ONPG concentrations

Enzyme: $\mu\text{g/ml}$	HIGAL: 110	HIGAL: 110	HIGAL: 110	HIGAL: 110
ONPG (mg/ml)	10	5	2.5	1.25
Sugar: mg/ml				
Time (min) to increase A405 by:				
0.025	6.3	6.0	9.7	28.7
0.05	7.7	8.0	11.3	n.r.
0.1	8.8	9.2	12.7	n.r.
0.2	10.0	10.2	14.0	n.r.
0.4	11.2	11.3	15.5	n.r.
0.8	12.3	12.5	17.3	n.r.
1.6	13.5	13.8	19.5	n.r.
3.2	14.7	15.3	22.8	n.r.

Table 10: Rate of ONP release, addition of various amounts of various galactooligosaccharides

Enzyme: $\mu\text{g/ml}$	HIGAL: 110	HIGAL: 110	HIGAL: 110	HIGAL: 110	HIGAL: 110	HIGAL: 110	HIGAL: 110
ONPG (mg/ml)	5	5	5	5	5	5	5
Sugar: mg/ml		Gal2: 0.5	Gal2: 0.05	Gal3: 0.5	Gal3: 0.05	Gal4: 0.5	Gal4: 0.05
Initial rate (mOD/min)	0.9	6	2	200	40	700	80
Time (min) to increase A405 by:	0.025	10.0	2.7	5.5	0.0	0.5	0.2
	0.05	11.3	3.5	6.8	0.2	1.0	0.5
	0.1	12.8	4.8	8.2	0.3	1.7	0.8
	0.2	14.2	6.0	9.5	0.5	2.3	1.5
	0.4	15.7	7.2	10.7	0.8	3.3	2.5
	0.8	17.0	8.3	11.8	1.5	4.8	3.7
	1.6	18.5	9.7	13.3	2.5	6.3	5.2
	3.2	20.0	11.0	15.2	3.8	7.7	7.5

Table 11: Rate of ONP release, inhibition by sugars

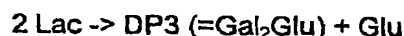
Enzyme: µg/ml	HIGAL:	HIGAL:	HIGAL:	HIGAL:	HIGAL:	HIGAL:	HIGAL:	HIGAL:	HIGAL:
	110	110	110	110	110	110	110	110	110
ONPG (mg/ml)	5	5	5	5	5	5	5	5	5
Sugar: mg/ml		Glu: 5	Ara: 5			Mai: 5	Mai3: 5		GaiA: 5
Time (min) to increase A405 by:	0.025	8.5	12.8	26.5	11.0	11.5	11.0	8.7	13.7
	0.05	9.5	14.8	n.r.	12.5	13.0	12.3	9.8	16.7
	0.1	10.8	17.0	n.r.	13.8	14.3	13.8	11.0	20.0
	0.2	12.0	19.3	n.r.	15.2	15.7	15.2	12.2	23.3
	0.4	13.3	21.8	n.r.	16.5	17.2	16.5	13.3	26.8
	0.8	14.5	24.3	n.r.	18.0	18.7	18.0	14.7	n.r.
	1.6	15.8	27.0	n.r.	19.5	20.2	19.3	16.0	n.r.
	3.2	17.3	n.r.	n.r.	21.3	22.0	21.3	17.3	n.r.

Example 5: Activity on lactose

HIGAL (60 µg/ml) and MTGAL (750 µg/ml) were incubated at 50°C with lactose (Lac) (100 mg/ml) at pH 4.8 (25 mM sodium citrate), 6.45 (25 mM sodium acetate, 0.5 mM CaCl₂, 0.005% Triton X-100) and 8.6 (50 mM Tris, 0.01 % Brij 35). 20 µl samples were withdrawn after 2, 23 and 120 hours, 980 water added and enzyme inactivated by heating to 95°C for 10 min. After a further 20 time dilution with water, samples were analysed using HPAE-PAD (Dionex LC-500 system, PA-100 column, 0-3 min: 150 mM NaOH, 3-19 min: linear gradient 0-0.18 M sodium acetate in 150 mM NaOH). Response factors for the individual peaks were estimated from standards of Gal, Glu, Lac, Gal₂, Gal₃ and Gal₄.

Under these conditions only MTGAL at pH 4.5 and 6.5 gave significant conversion of Lac. In Tables 12 and 13 weight fractions of the analysed products with MTGAL at pH 4.5 and 6.45 are given. The figures indicate weight% of the products resulting from the incubation. The term DP3 indicates transglycosylation product consisting of three sugar units, and the term DP4+ transglycosylation products consisting of four or more sugar units. Unfortunately, the analysis method used was not able to separate Glu and Gal.

With transglycosylation occurring according to the reaction:



the weight fraction of DP3 should be about three times higher than the weight of the monomer. After 2 hours the ratio is about 1.5 at both pH's indicating that this is not the only reaction taking place. The production of larger oligosaccharides (DP4+) is a result of the initial transglycosylation product functioning as acceptor for further transglycosylation:



Also, from the increasing amount of Gal/Glu without corresponding increase in transglycosylation products (DP3 and DP4+) after 23 and 120 hours, it is evident that hydrolysis of transglycosylation products takes place. These hydrolysis reactions seem to be slower at pH 6.45 than at pH 4.5.

Table 12: Activity of MTGAL on lactose (pH 4.5)

Incubation time (hours)	2	23	120
Glu/Gal	1.4	12.5	38.8
Lac/Gal ₂	96.0	78.7	51.2
DP3	2.0	7.0	8.9
DP4+	0.5	1.8	1.1

Table 13: Activity of MTGAL on lactose (pH 6.45)

Incubation time (hours)	2	23	120
Glu/Gal	1.0	6.5	21.0
Lac/Gal2	95.7	85.3	62.6
DP3	1.4	6.3	11.7
DP4+	1.9	1.9	4.7

Example 6: Activity on galactan

Lupin galactan (Megazyme) was incubated with BLGAL (0.1-10 µg/ml) at pH 6.5 (50 mM MES, 1mM CaCl₂) and with AAGAL (0.1-10 µg/ml) at pH 4.0 (50 mM sodium acetate, 1 mM CaCl₂) at 30°C. Samples were withdrawn after 45 min to 24 hours and enzyme inactivated by heating to 95°C for 10 min. Reaction products were analysed using HPAEC-PAD on a Dionex chromatographic system using a CarboPac PA-100 column and a linear gradient 0 to 0.3 M sodium acetate in 0.15 M NaOH. Purified galacto-oligosaccharides were used to identify products.

With BLGAL the initial main product is galactotetraose with both smaller and larger oligomers also present. Upon longer incubation the fractions of galactose, galactobiose and galactotriose increase and after prolonged incubation only these three oligomers are seen in molar ratios of about 1:0.4:0.9.

AAGAL initially produces a more homogeneous mixture of galactooligomers. Further degradation yields mainly galactose, galactobiose and galactotriose, and finally almost exclusively galactose and galactobiose are seen in a molar ratio of about 2:1. Small peaks probably corresponding to galactobioses and galactotrioses resulting from transglycosylation reactions with glucosidic bonds different from β-1,4 are also present.

CLAIMS

1. A variant of a parent Glycoside Hydrolase Family 53 galactanase, comprising an alteration in at least one of the following positions: -6, -4, -2, 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 20, 22, 24, 25, 26, 29, 30, 31, 32, 36, 39, 40, 41, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 54a, 54e, 54f, 54g, 54h, 55, 56, 57, 58, 61, 62, 65, 69, 77, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 101, 106, 107, 110, 113, 114, 126, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 144, 145, 146, 147, 150, 153, 157, 159, 163, 169, 171, 172, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 191, 192, 194, 198, 200, 203, 204, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 252, 252d, 252e, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 273, 274, 276, 277, 280, 283, 284, 286, 288, 288a, 289, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 302a, 302d, 302j, 302k, 302m, 302n, 302o, 302q, 302r, 302s, 302t, 302u, 302v, 302x, 302y, 302z, 302aa, 302bb, 302cc, 302dd, 302ee, 302ff, 302gg, 302hh, 302ii, 302jj, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, and 330; wherein

(a) the alteration(s) are independently

- (i) an insertion of an amino acid immediately downstream of the position,
- (ii) a deletion of the amino acid which occupies the position, and/or
- (iii) a substitution of the amino acid which occupies the position;

and

(b) the variant has galactanase activity.

2. The variant of claim 1, wherein the variant comprises at least one of the following substitutions: -6P; -4P; -2P; 1P; 3P; 5A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 6A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 7A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 8A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 9A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 10A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 11A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 12A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 13A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 14A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 15A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 16A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 18A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 20A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 22A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 24C,P; 25P; 26P; 29P; 30C; 31P; 32A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 36A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 39C; 40C; 41P; 43A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 44A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 45A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 46A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

47A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 48A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 49A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 50A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 51A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 52A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 53A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 54A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 5 54aP; 54eA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 54fA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 54gA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 54hA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 55A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 10 56A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 57A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 58A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 61A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 62C; 65C; 69C; 77A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 79A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 80A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 81A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 82A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 15 83A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 84A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 85A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 86A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 87A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 88A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 89A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 90A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 91A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 92A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 20 93A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 94A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 95A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 96A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 97P; 101P; 106C; 107H,S; 110C; 113C; 114C; 126E;
 131A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 133A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 25 134A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 135A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 136A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 137A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 139A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 30 140A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 141A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 142A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 144P;
 146A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 147P; 150C; 159C; 163C; 169P; 171P;
 172P; 178A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 35 179A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 180A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 181A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 182A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

- 183A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 184A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 185A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 186A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 5 187A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 188A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 189A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 191A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 194C; 198P; 200P; 203P; 204P; 210A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 10 211A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 212A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 213A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 214A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 215A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 15 216A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 216FVASTG;
 217A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 218A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 219A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 220A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 20 221A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 222A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 223A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 224A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 225A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 25 226A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 227A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 228A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 229A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 230A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 30 231A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 232A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 233A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 234C; 241A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 242A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 35 243A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 244A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 245A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 246A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

- 247A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 248A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 249A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 250A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 5 252A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 252dA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 252eA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 253A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 254A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 10 255A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 256A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 257A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 258A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 259A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 15 260A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 261A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 262A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 263A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 264A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 20 265A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 266P; 273A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 274C;
 276A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 277A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 280A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 25 283A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 286P; 288P; 288aP; 289P;
 293A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 294A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 295A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 296A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 30 297A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 298A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 299A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 300A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 301A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 35 302A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 302aA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 302dP;
 302jA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

302kA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
302mA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
302nA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
302oA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
5 302qA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
302rA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
302sA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
302tA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
302uA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
10 302vA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
302xA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
302yA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
302zA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
302aaA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
15 302bbA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 302ccP;
302ddA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
302eeA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
302ffA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
302ggA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
20 302hhA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
302iiA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
302jjA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
303A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
304A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
25 305A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
306A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
307A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
308A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
309A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
30 310A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
311A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
312A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
313A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
314A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
35 315A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
316A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
317A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
318A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

319A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 320A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 321A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 322A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 5 323A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 324P; 325P;
 326A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 327P; 328C;
 329A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; and/or 330C.

3. The variant of any one of claims 1-2, wherein the variant comprises at least one of
 10 the following substitutions: *-6P; *-4P; *-2P; A1P; T3P;
 R5A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; G6A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V7A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; D8A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 S9A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; S10A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 S11A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; V12A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 15 V13A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; V14A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 E15A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 E16A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; A18C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V20A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; Y22A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 N24C,P; T25P; N26P; A29P; Q30C; L32A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 20 L36A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; N39C; G40C; V41P;
 T43A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y; V44A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 R45A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y; Q46A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 R47A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y; V48A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 W49A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y; V50A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 25 N51A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y; P52A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 A53C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; D54A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *54aP; *54eA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 54fA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *54gA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 30 *54hA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 G55A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N56A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y; Y57A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 N58A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Y61A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 35 N62C; I65C; A69C; Y77A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 D79A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; F80A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 H81A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y; Y82A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 S83A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; D84A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

T85A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y; W86A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 A87C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; D88A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P89A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y; A90C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 H91A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y; Q92A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 5 T93A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y; M94A,C,D,E,F,G,H,I,K,L,N,P,Q,R,S,T,V,W,Y;
 95A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; A96C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 G97P; D101P; S106C; W107H,S; Y110C; T113C; L114C; Q126E;
 131A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 G133A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 10 N134A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 E135A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 I136A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 R137A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
 G139A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 15 L140A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 L141A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 W142A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y; T144P;
 R146A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y; T147P; W150C; S159C; G163C; 169P;
 K172P; H178A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 20 179A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; D180A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N181A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 G182A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 W183A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 D184A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 25 W185A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 G186A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T187A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 Q188A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 N189A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 30 W191A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;N194C; Q198P; T200P; L203P; S204P;
 G210A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V211A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 S212A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 F213A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 35 Y214A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 P215A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 F216A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; F216FVASTG;
 Y217A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;

S218A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 S219A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 S220A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 A221C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 5 T222A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 L223A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 S224A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 A225C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L226A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 10 K227A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y;
 S228A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 S229A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 L230A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 D231A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 15 N232A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 M233A,C,D,E,F,G,H,I,K,L,N,P,Q,R,S,T,V,W,Y; A234C;
 I241A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 A242C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V243A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 20 V244A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 E245A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T246A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 N247A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 W248A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 25 P249A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 I250A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 C252A,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *252dA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *252eA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 30 P253A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 N254A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 P255A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 R256A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
 Y257A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 35 S258A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 F259A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P260A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 S261A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;

D262A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V263A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 K264A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y;
 N265A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y; I266P;
 5 Q273A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y; T274C;
 276A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; I277A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V280A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 I283A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y; S286P; S288P; *288aP, R289P;
 L293A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 10 F294A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Y295A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 W296A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 E297A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P298A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 15 A299C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 W300A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 I301A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 H302A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302aA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 20 *302dP; *302jA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302kA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302mA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302nA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302oA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 25 *302qA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302rA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302sA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302tA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302uA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 30 *302vA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302xA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302yA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302zA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302aaA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 35 *302bbA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; *302ccP;
 *302ddA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302eeA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302ffA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

*302ggA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

*302hhA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

*302iiA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

*302jjA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

5 N303A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;

A304C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

N305A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;

L306A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;

G307A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

10 S308A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;

S309A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;

C310A,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

A311C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

D312A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

15 N313A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;

T314A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;

M315A,C,D,E,F,G,H,I,K,L,N,P,Q,R,S,T,V,W,Y;

F316A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

S317A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;

20 Q318A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;

S319A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;

G320A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

Q321A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;

A322C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

25 L323A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; S324P; S325P;

L326A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; S327P; V328C;

F329A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; and/or Q330C.

4. The variant of any one of claims 1-3, wherein the variant comprises at least one of the following substitutions: G6A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

30 V7A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; D8A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

S9A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; S10A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;

S11A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; V12A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;

V13A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; V14A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,,W,Y;

35 E15A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; E16A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

A18C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; V20A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;

Y22A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W; N24P; T25P; A29P;

L32A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; L36A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;

N39C; T43A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 V44A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; R45A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
 Q46A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y; R47A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
 V48A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; W49A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 5 V50A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; N51A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 P52A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y; A53P;
 D54A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; N56A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 Y57A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W; Y61A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 Y77A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W; D79A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 10 F80A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; H81A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Y82A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W; S83A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 D84A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; T85A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 W86A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y; A87C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 D88A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; P89A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 15 A90C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; H91A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Q92A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y; T93A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 M94A,C,D,E,F,G,H,I,K,L,N,P,Q,R,S,T,V,W,Y; 95A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 D101P; W107H,S; Y110C; Q126E; G133A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N134A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 20 E135A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 I136A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 R137A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
 G139A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L140A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 25 L141A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 W142A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y; T147P; W150C; G163C;
 H178A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L179A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 D180A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 30 N181A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 G182A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 W183A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 D184A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 W185A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 35 G186A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T187A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 Q188A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 N189A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; N194C; Q198P; L203P; S204P;

G210A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V211A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 S212A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 F213A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 5 Y214A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 P215A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 F216A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; F216FVASTG;
 Y217A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 S218A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 10 S219A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 S220A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 A221C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T222A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 L223A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 15 S224A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 A225C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L226A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 K227A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y;
 S228A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 20 S229A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 L230A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 D231A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N232A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 M233A,C,D,E,F,G,H,I,K,L,N,P,Q,R,S,T,V,W,Y;
 25 I241A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 A242C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V243A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 V244A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 E245A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 30 T246A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 N247A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 W248A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 P249A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 I250A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 35 C252A,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P255A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 R256A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
 Y257A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;

S258A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 F259A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P260A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 D262A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 5 V263A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 Q273A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y; T274C;
 F276A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 I277A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V280A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 10 I283A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y; S288P;
 L293A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 F294A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Y295A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 W296A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 15 E297A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P298A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 A299C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 W300A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 I301A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 20 H302A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N303A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 A304C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N305A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 L306A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 25 G307A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 S308A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 S309A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 C310A,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 A311C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 30 D312A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N313A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 T314A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 M315A,C,D,E,F,G,H,I,K,L,N,P,Q,R,S,T,V,W,Y;
 F316A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 35 S317A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 Q318A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 S319A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;

G320A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

Q321A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;

A322P; S324P; S325P; L326A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; S327P; V328C;

F329A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; and/or Q330C.

5

5. The variant of any one of claims 1-4, wherein the variant comprises at least one of the following substitutions:

(a) Y214N,S+N247Y+L306Q; Y214A; F216FVASTG ; and/or P89W+W86N;

(b) A90S+H91D; H91N,L,D; N313D; N303D,H; and/or N305D,H;

10 (c) Y22P, N24P, T25P, A29P, A53P, N56P, T93P, D101P, W142P, T147P, Q198P, L203P, S204P, S219P, S258P, S288P, A304P, A311P, Q318P, A322P, S324P, S325P, and/or S327P;

(d) W107S,H;

(e) Q126E;

15 (f) N39C+L326C; V20C+G320C; Y110C+G163C; W150C+N194C; T274C+V328C; and/or I301C+F316C; and/or

(g) G6A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; V7A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;

D8A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; W9A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;

S10A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; S11A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;

20 V12A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; V13A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;

V14A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; E15A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

E16A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; A18C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

V20A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; Y22A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;

L32A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; L36A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;

25 T43A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y; V44A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;

R45A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y; Q46A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;

R47A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y; V48A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;

W49A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y; V50A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;

N51A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y; P52A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;

30 D54A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; N56A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;

Y57A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W; Y61A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;

Y77A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W; D79A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

F80A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; H81A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

Y82A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W; S83A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;

35 D84A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; T85A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;

W86A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y; A87C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

D88A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; P89A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;

A90C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; H91A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

Q92A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y; T93A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 M94A,C,D,E,F,G,H,I,K,L,N,P,Q,R,S,T,V,W,Y; P95A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 G133A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N134A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 5 E135A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 I136A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 R137A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
 G139A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L140A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 10 L141A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 W142A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 H178A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L179A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 D180A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 15 N181A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 G182A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 W183A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 D184A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 W185A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 20 G186A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T187A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 Q188A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 N189A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 G210A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 25 V211A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 S212A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 F213A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Y214A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 P215A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 30 F216A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Y217A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 S218A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 S219A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 S220A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 35 A221C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T222A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 L223A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 S224A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;

A225C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L226A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 K227A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y;
 S228A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 5 S229A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 L230A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 D231A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N232A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 M233A,C,D,E,F,G,H,I,K,L,N,P,Q,R,S,T,V,W,Y;
 10 I241A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 A242C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V243A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 V244A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 E245A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 15 T246A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 N247A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 W248A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 P249A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 I250A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 20 C252A,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P255A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 R256A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
 Y257A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 S258A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 25 F259A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P260A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 D262A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V263A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 Q273A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 30 F276A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 I277A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V280A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 I283A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L293A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 35 F294A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Y295A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 W296A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 E297A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

P298A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 A299,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 W300A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 I301A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 5 H302A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N303A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 A304C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N305A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 L306A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 10 G307A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 S308A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 S309A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 C310A,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 A311C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 15 D312A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N313A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 T314A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 M315A,C,D,E,F,G,H,I,K,L,N,P,Q,R,S,T,V,W,Y;
 F316A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 20 S317A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 Q318A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 S319A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 G320A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Q321A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 25 L326A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; and/or
 F329A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y.

6. The variant of any one of claims 3-5 which is a variant of a *Myceliophthora thermophila* galactanase.

30

7. The variant of any one of claims 1-2, wherein the variant comprises at least one of the following substitutions: *-6P; *-4P; *-2P; A1P; Q3P;

K5A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y; G6A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 D7A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; W8A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 35 W9A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y; S10A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 S11A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; V12A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 M13A,C,D,E,F,G,H,I,K,L,N,P,Q,R,S,T,V,W,Y; V14A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 E15A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; E16A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

A18C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; V20A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 Y22A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W; N24C,P; V25P; N26P; E29P; K30C;
 L32A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; L36A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 39C; G40C; V41P; M43A,C,D,E,F,G,H,I,K,L,N,P,Q,R,S,T,V,W,Y;
 5 V44A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; R45A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
 Q46A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y; R47A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
 V48A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; W49A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 V50A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; N51A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 P52A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 10 W53A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 D54A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y; *54aP;
 *54eA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *54fA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *54gA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 15 *54hA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 G55A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; N56A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 Y57A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W; N58A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 Y61A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W; N62C; L65C; A69C;
 Y77A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W; N79A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 20 F80A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; H81A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Y82A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W; S83A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 D84A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; I85A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 W86A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y; A87C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 D88A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; P89A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 25 A90C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; H91A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Q92A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y; T93A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 T94A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y; P95A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 A96C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; G97P; D101P; A106C; W107H,S; Y110C;
 T113C; L114C; Q126E; S131A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 30 G133A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N134A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 E135A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 I136A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T137A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 35 G139A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L140A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 L141A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 W142A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y; L144P;

K146A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y;W142P; T147P; W150C; S159C; G163C;
 L169P; K172P; H178A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L179A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 D180A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 5 N181A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 G182A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 W183A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 N184A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 W185A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 10 D186A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T187A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 Q188A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 N189A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 W191A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y; N194C; Q198P; M203P; S204P;
 15 G210A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V211A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 S212A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 F213A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Y214A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 20 P215A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 F216A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 216FVASTG;
 Y217A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 S218A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 A219C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 25 S220A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 A221C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T222A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 L223A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 D224A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 30 S225A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 L226A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 R227A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
 R228A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
 S229A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 35 L230A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 N231A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 N232A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;

M233A,C,D,E,F,G,H,I,K,L,N,P,Q,R,S,T,V,W,Y; V234C;
 V241A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 A242C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V243A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 5 V244A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 E245A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T246A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 N247A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 W248A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 10 P249A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 T250A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 C252A,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *252dA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *252eA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 15 P253A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 Y254A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 P255A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 R256A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
 Y257A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 20 Q258A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 F259A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P260A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 A261C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 D262A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 25 V263A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 R264A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
 N265A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y; V266P;
 Q273A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y; T274C;
 276A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W; I277A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 30 V280A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 V283A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; S286P; S288P; *288aP; K289P;
 L293A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 F294A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Y295A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 35 W296A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 E297A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P298A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 A299C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

W300A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 I301A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 H302A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302aA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 5 *302dP; *302jA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302kA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302mA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302nA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302oA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 10 *302qA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302rA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302sA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302tA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302uA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 15 *302vA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302xA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302yA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302zA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302aaA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 20 *302bbA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; *302ccP;
 *302ddA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302eeA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302ffA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302ggA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 25 *302hhA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302iiA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302jjA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N303A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 A304C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 30 N305A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 L306A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 G307A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 S308A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 S309A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 35 C310A,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 A311C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 D312A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

N313A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;

T314A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;

M315A,C,D,E,F,G,H,I,K,L,N,P,Q,R,S,T,V,W,Y;

F316A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

5 T317A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;

P318A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;

S319A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;

G320A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

Q321A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;

10 A322C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

L323A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; S324P; S325P;

L326A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; S327P; V328C;

F329A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; and/or H330C.

15 8. The variant of claim 7, wherein the variant comprises at least one of the following substitutions: G6A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

V7A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; D8A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

W9A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y; S10A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;

S11A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; V12A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;

20 M13A,C,D,E,F,G,H,I,K,L,N,P,Q,R,S,T,V,W,Y; V14A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;

E15A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; E16A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

A18C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; V20A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;

Y22A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W; V25P; E29P;

L32A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; L36A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;

25 V41P; M43A,C,D,E,F,G,H,I,K,L,N,P,Q,R,S,T,V,W,Y;

V44A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; R45A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;

Q46A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y; R47A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;

V48A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; W49A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;

V50A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; N51A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;

30 P52A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;

W53A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

D54A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y; G55A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

N56A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y; Y57A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;

N58A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y; Y61A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;

35 Y77A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W; N79A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;

F80A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; H81A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

Y82A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W; S83A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;

D84A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; T85A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;

W86A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y; A87C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 D88A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; P89A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 A90C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; H91A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Q92A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y; T93A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 5 T94A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y; A96C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T113C; G133A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N134A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 E135A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 I136A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 10 T137A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 G139A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L140A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 L141A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 W142A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y; G163C; L169P;
 15 H178A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L179A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 D180A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N181A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 G182A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 20 W183A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 N184A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 W185A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 D186A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T187A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 25 Q188A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 N189A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y; Q198P; M203P;
 G210A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V211A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 S212A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 30 F213A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Y214A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 P215A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 F216A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; 216FVASTG;
 Y217A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 35 S218A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 A219C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 S220A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;

A221C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T222A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 L223A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 D224A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 5 S225A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 L226A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 R227A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
 R228A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
 S229A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 10 L230A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 N231A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 N232A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 M233A,C,D,E,F,G,H,I,K,L,N,P,Q,R,S,T,V,W,Y;
 V241A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 15 A242C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V243A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 V244A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 E245A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T246A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 20 N247A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 W248A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 P249A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 C252A,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P255A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 25 R256A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
 Y257A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 Q258A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 F259A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P260A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y; A261P;
 30 D262A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V263A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 Q273A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 Y276A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 I277A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 35 V280A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 V283A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; S288P;
 L293A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 F294A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

Y295A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 W296A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 E297A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P298A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 5 A299C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 W300A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 I301A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 H302A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N303A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 10 A304C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N305A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 L306A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 G307A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 S308A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 15 S309A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 C310A,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 A311C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 D312A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N313A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 20 T314A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 M315A,C,D,E,F,G,H,I,K,L,N,P,Q,R,S,T,V,W,Y;
 F316A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T317A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 P318A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 25 S319A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 G320A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Q321A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y; A322P; S324P; S325P;
 L326A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 F329A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; and/or H330C.

30

9. The variant of claim 8, wherein the variant comprises at least one of the following substitutions:

- (a) V20P, V25P, E29P, V41P, V50P, W53P, N56P, T94P, A96P, W142P, L169P, W185P, Q198P, M203P, A219P, A221P, T222P, Q258P, A261P, D262P, S288P, N305P, A311P,
 35 A322P, S324P, and/or S325P;
 (b) T113C+G163C, W185C+S229C, S218C+A221C, R227C+V283C; and/or
 (c) G6A,C,D,E,F,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V7A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,W,Y;

D8A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
 W9A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,Y;
 S10A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,T,V,W,Y;
 S11A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,T,V,W,Y;
 5 V12A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,W,Y;
 M13A,C,D,E,F,G,H,I,J,K,L,N,P,Q,R,S,T,V,W,Y;
 V14A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,W,Y;
 E15A,C,D,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
 E16A,C,D,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
 10 A18C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V20A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,W,Y;
 Y22A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W;
 L32A,C,D,E,F,G,H,I,J,K,M,N,P,Q,R,S,T,V,W,Y;
 L36A,C,D,E,F,G,H,I,J,K,M,N,P,Q,R,S,T,V,W,Y;
 15 M43A,C,D,E,F,G,H,I,J,K,L,N,P,Q,R,S,T,V,W,Y;
 V44A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,W,Y;
 R45A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,S,T,V,W,Y;
 Q46A,C,D,E,F,G,H,I,J,K,L,M,N,P,R,S,T,V,W,Y;
 R47A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,S,T,V,W,Y;
 20 V48A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,W,Y;
 W49A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,Y;
 V50A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,W,Y;
 N51A,C,D,E,F,G,H,I,J,K,L,M,P,Q,R,S,T,V,W,Y;
 P52A,C,D,E,F,G,H,I,J,K,L,M,N,Q,R,S,T,V,W,Y;
 25 W53A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,Y;
 D54A,C,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
 G55A,C,D,E,F,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N56A,C,D,E,F,G,H,I,J,K,L,M,P,Q,R,S,T,V,W,Y;
 Y57A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W;
 30 N58A,C,D,E,F,G,H,I,J,K,L,M,P,Q,R,S,T,V,W,Y;
 Y61A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W;
 Y77A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W;
 N79A,C,D,E,F,G,H,I,J,K,L,M,P,Q,R,S,T,V,W,Y;
 F80A,C,D,E,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
 35 H81A,C,D,E,F,G,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Y82A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W;
 S83A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,T,V,W,Y;

D84A,C,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
T85A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,V,W,Y;
W86A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,Y;
A87C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
5 D88A,C,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
P89A,C,D,E,F,G,H,I,J,K,L,M,N,Q,R,S,T,V,W,Y;
A90C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
H91A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
Q92A,C,D,E,F,G,H,I,J,K,L,M,N,P,R,S,T,V,W,Y;
10 T93A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,V,W,Y;
T94A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,V,W,Y;
A96,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
G133A,C,D,E,F,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
N134A,C,D,E,F,G,H,I,J,K,L,M,P,Q,R,S,T,V,W,Y;
15 E135A,C,D,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
I136A,C,D,E,F,G,H,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
T137A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,V,W,Y;
G139A,C,D,E,F,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
L141A,C,D,E,F,G,H,I,J,K,M,N,P,Q,R,S,T,V,W,Y;
20 W142A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,Y;
H178A,C,D,E,F,G,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
L179A,C,D,E,F,G,H,I,J,K,M,N,P,Q,R,S,T,V,W,Y;
D180A,C,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
N181A,C,D,E,F,G,H,I,J,K,L,M,P,Q,R,S,T,V,W,Y;
25 G182A,C,D,E,F,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
W183A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,Y;
N184A,C,D,E,F,G,H,I,J,K,L,M,P,Q,R,S,T,V,W,Y;
W185A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,Y;
D186A,C,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
30 T187A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,V,W,Y;
Q188A,C,D,E,F,G,H,I,J,K,L,M,N,P,R,S,T,V,W,Y;
N189A,C,D,E,F,G,H,I,J,K,L,M,P,Q,R,S,T,V,W,Y;
G210A,C,D,E,F,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
V211A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,W,Y;
35 S212A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,T,V,W,Y;
F213A,C,D,E,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
Y214A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W;
P215A,C,D,E,F,G,H,I,J,K,L,M,N,Q,R,S,T,V,W,Y;

F216A,C,D,E,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
Y217A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W;
S218A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,T,V,W,Y;
A219C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
5 S220A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,T,V,W,Y;
A221C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
T222A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,V,W,Y;
L223A,C,D,E,F,G,H,I,J,K,M,N,P,Q,R,S,T,V,W,Y;
D224A,C,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
10 S225A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,T,V,W,Y;
L226A,C,D,E,F,G,H,I,J,K,M,N,P,Q,R,S,T,V,W,Y;
R227A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,S,T,V,W,Y;
R228A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,S,T,V,W,Y;
S229A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,T,V,W,Y;
15 L230A,C,D,E,F,G,H,I,J,K,M,N,P,Q,R,S,T,V,W,Y;
N231A,C,D,E,F,G,H,I,J,K,L,M,P,Q,R,S,T,V,W,Y;
N232A,C,D,E,F,G,H,I,J,K,L,M,P,Q,R,S,T,V,W,Y;
M233A,C,D,E,F,G,H,I,J,K,L,N,P,Q,R,S,T,V,W,Y;
V241A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,W,Y;
20 A242C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
V243A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,W,Y;
V244A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,W,Y;
E245A,C,D,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
T246A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,V,W,Y;
25 N247A,C,D,E,F,G,H,I,J,K,L,M,P,Q,R,S,T,V,W,Y;
W248A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,Y;
P249A,C,D,E,F,G,H,I,J,K,L,M,N,Q,R,S,T,V,W,Y;
C252A,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
P255A,C,D,E,F,G,H,I,J,K,L,M,N,Q,R,S,T,V,W,Y;
30 R256A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,S,T,V,W,Y;
Y257A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W;
Q258A,C,D,E,F,G,H,I,J,K,L,M,N,P,R,S,T,V,W,Y;
F259A,C,D,E,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
P260A,C,D,E,F,G,H,I,J,K,L,M,N,Q,R,S,T,V,W,Y;
35 D262A,C,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
V263A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,W,Y;
Q273A,C,D,E,F,G,H,I,J,K,L,M,N,P,R,S,T,V,W,Y;
Y276A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W;

- 1277A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V280A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,W,Y;
 V283A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,W,Y;
 L293A,C,D,E,F,G,H,I,J,K,M,N,P,Q,R,S,T,V,W,Y;
 5 F294A,C,D,E,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Y295A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W;
 W296A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,Y;
 E297A,C,D,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P298A,C,D,E,F,G,H,I,J,K,L,M,N,Q,R,S,T,V,W,Y;
 10 A299C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
 W300A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,Y;
 I301A,C,D,E,F,G,H,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
 H302A,C,D,E,F,G,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N303A,C,D,E,F,G,H,I,J,K,L,M,P,Q,R,S,T,V,W,Y;
 15 A304C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N305A,C,D,E,F,G,H,I,J,K,L,M,P,Q,R,S,T,V,W,Y;
 L306A,C,D,E,F,G,H,I,J,K,M,N,P,Q,R,S,T,V,W,Y;
 G307A,C,D,E,F,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
 S308A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,T,V,W,Y;
 20 S309A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,T,V,W,Y;
 C310A,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
 A311C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
 D312A,C,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N313A,C,D,E,F,G,H,I,J,K,L,M,P,Q,R,S,T,V,W,Y;
 25 T314A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,V,W,Y;
 M315A,C,D,E,F,G,H,I,J,K,L,N,P,Q,R,S,T,V,W,Y;
 F316A,C,D,E,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T317A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,S,V,W,Y;
 P318A,C,D,E,F,G,H,I,J,K,L,M,N,Q,R,S,T,V,W,Y;
 30 S319A,C,D,E,F,G,H,I,J,K,L,M,N,P,Q,R,T,V,W,Y;
 G320A,C,D,E,F,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Q321A,C,D,E,F,G,H,I,J,K,L,M,N,P,R,S,T,V,W,Y;
 L326A,C,D,E,F,G,H,I,J,K,M,N,P,Q,R,S,T,V,W,Y; and/or
 F329A,C,D,E,G,H,I,J,K,L,M,N,P,Q,R,S,T,V,W,Y.

35

10. The variant of any one of claims 7-9 which is a variant of a *Humicola insolens* galactanase.

11. The variant of any one of claims 1-2, wherein the variant comprises at least one of the following substitutions: *-6P; *-4P; *-2P; A1P; T3P;

R5A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y; G6A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

A7C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; D8A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

5 I9A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y; S10A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;

S11A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; L12A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;

L13A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; L14A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;

L15A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;

E16A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; E18A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

10 Y20A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W; Y22A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;

N24C,P; L25P; N26P; T29P; Q30C; A31P; L32A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;

L36A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; A39C; G40C; I41P;

S43A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; I44A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;

R45A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y; Q46A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;

15 R47A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y; V48A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;

W49A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y; V50A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;

N51A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y; P52A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;

S53A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; D54A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

*54aP; *54eA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

20 *54fA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

*54gA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

*54hA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

G55A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; S56A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;

Y57A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W; D58A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

25 Y61A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W; N62C; L65C; V69C;

Y77A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W; D79A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

L80A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; H81A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

L82A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; S83A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;

D84A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; T85A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;

30 W86A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y; A87,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

D88A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; P89A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;

S90A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; D91A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

Q92A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y; T93A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;

T94A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y; P95A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;

35 S96A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; G97P; D101P; K106C; W107H,S; Y110C;

T113C; L114C; D126E; G133A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

N134A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;

E135A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

I136A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 R137A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
 G139A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L140A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 5 L141A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 W142A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y; L144P;
 E146A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; T147P; Y150C; S159C; G163C; L169P;
 T171P; T172P; H178A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L179A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 10 D180A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 D181A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 G182A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 W183A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 S184A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 15 W185A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 D186A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Q187A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 Q188A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 N189A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 20 F191A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; T194C; T198P; E200P; S203P; T204P;
 G210A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V211A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 S212A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 Y213A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 25 Y214A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 P215A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 F216A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; F216FVASTG;
 Y217A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 S218A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 30 A219C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 S220A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 A221C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T222A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 L223A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 35 A224C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 S225A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 L226A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;

K227A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y;
 T228A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 S229A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 L230A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 5 A231C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N232A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 L233A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; Q234C;
 V241A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 V242A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 10 V243A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 V244A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 E245A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T246A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 N247A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 15 W248A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 P249A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 V250A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 C252A,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *252dA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 20 *252eA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P253A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 N254A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 P255A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 A256C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 25 Y257A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 A258C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 F259A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P260A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 S261A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 30 D262A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L263A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; S264A,C,D,E,F,G,H,I,K,L,M,N,P,Q,T,V,W,Y;
 S265A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; I266P;
 Q273A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y; Q274C;
 F276A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 35 L277A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 L280A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 V283A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; A286P; T288P; *288aP, D289P;
 V293A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;

Y294A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 Y295A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 W296A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 E297A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 5 P298A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 A299,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 W300A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 I301A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 G302A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 10 *302aA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302dP; *302jA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302kA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302mA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302nA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 15 *302oA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302qA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302rA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302sA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302tA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 20 *302uA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302vA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302xA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302yA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302zA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 25 *302aaA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302bbA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; *302ccP;
 *302ddA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302eeA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302ffA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 30 *302ggA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302hhA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302iiA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *302jjA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N303A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 35 A304C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 G305A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L306A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;

G307A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 S308A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 S309A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 C310A,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 5 A311C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 D312A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N313A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 L314A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 M315A,C,D,E,F,G,H,I,K,L,N,P,Q,R,S,T,V,W,Y;
 10 V316A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 D317A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Y318A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 T319A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 D320A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 15 E321A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V322A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 Y323A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W; E324P; S325P;
 I326A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y; E327P; T328C;
 L329A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; and/or G330C.

20

12. The variant of claim 11, wherein the variant comprises at least one of the following substitutions: T3P; R5A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;

G6A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; A7C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 D8A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; I9A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 25 S10A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; S11A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 L12A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; L13A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 L14A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; L15A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 E16A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; E18A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Y20A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W; Y22A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 30 N24C,P; L25P; T29P; Q30C; A31P; L32A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;

L36A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; S43A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 I44A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y; R45A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
 Q46A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y; R47A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
 V48A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; W49A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 35 V50A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; N51A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 P52A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y; S53P;
 D54A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; D54A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 S56A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; Y57A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;

Y61A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W; L65C;
 Y77A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W; D79A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L80A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; H81A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L82A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; S83A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 5 D84A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; T85A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 W86A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y; A87,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 D88A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; P89A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 S90A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; D91A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Q92A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y; T93A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 10 T94A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y; P95A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 S96P; G133A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N134A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 E135A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 I136A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 15 R137A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
 G139A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L141A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 W142A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y; L144P; E146P; T147P; T172P;
 H178A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 20 L179A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 D180A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 D181A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 G182A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 W183A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 25 S184A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 W185A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 D186A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Q187A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 Q188A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 30 N189A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 F191A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 E200P; S203P; G210A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V211A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 S212A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 35 Y213A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 Y214A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 P215A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 F216A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; F216FVASTG;

Y217A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 S218A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 A219C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 S220A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 5 A221C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T222A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 L223A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 A224C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 S225A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 10 L226A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 K227A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y;
 T228A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 S229A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 L230A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 15 A231C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N232A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 L233A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 V242A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 V243A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 20 V244A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 E245A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T246A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 N247A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 W248A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 25 P249A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 C252A,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P255A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 A256C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Y257A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 30 A258C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 F259A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P260A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y; S261P;
 D262A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L263A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; S264P; I266P;
 35 Q273A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 F276A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L277A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 L280A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;

V283A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; T288P;
 V293A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 Y294A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 Y295A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 5 W296A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 E297A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P298A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 A299,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 W300A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 10 I301A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 G302A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N303A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 A304C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 G305A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 15 L306A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 G307A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 S308A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 S309A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 C310A,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 20 A311C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 D312A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N313A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 L314A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 M315A,C,D,E,F,G,H,I,K,L,N,P,Q,R,S,T,V,W,Y;
 25 V316A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 D317A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Y318A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 T319A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 D320A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 30 E321A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V322A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 Y323A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 E324P; S325P; I326A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y; E327P; T328C;
 L329A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; and/or G330C.

35

13. The variant of claim 12, wherein the variant comprises at least one of the following substitutions:

(a) D181N, D181N+S90A+D91H;

(b) T3P, Y20P, N24P, L25P, T29P, A31P, V50P, S53P, S56P, T93P, T94P, S96P, W142P, L144P, E146P, T147P, T172P, E200P, S203P, A219P, A256P, A258P, S261P, S264P, I266P, T288P, I301P, A304P, Y318P, and/or E324P;

(c) L13C+L65C, N24C+Q30C, S218C+A221C, A304C+Y318C; and/or

- 5 (d) R5A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; G6A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; A7C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; D8A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; I9A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; S10A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; S11A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; L12A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; L13A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; L14A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
- 10 L15A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; E16A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; E18A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; Y20A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; Y22A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; L32A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; L36A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; S43A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; I44A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; R45A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
- 15 Q46A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y; R47A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y; V48A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; W49A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; V50A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; N51A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y; P52A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y; D54A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; S56A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; Y57A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
- 20 Y61A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; Y77A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; D79A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; L80A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; H81A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; L82A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; S83A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; D84A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; T85A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y; W86A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
- 25 A87C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; D88A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; P89A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y; S90A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; D91A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; Q92A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y; T93A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y; T94A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y; P95A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y; G133A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
- 30 N134A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y; E135A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; I136A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; R137A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y; G139A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
- 35 L141A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; W142A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; H178A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; L179A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;

D180A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
D181A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
G182A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
W183A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
5 S184A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
W185A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
D186A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
Q187A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
Q188A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
10 N189A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
G210A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
V211A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
S212A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
Y213A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
15 Y214A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
P215A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
F216A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
Y217A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
S218A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
20 A219C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
S220A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
A221C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
T222A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
L223A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
25 A224C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
S225A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
L226A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
K227A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y;
T228A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
30 S229A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
L230A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
A231C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
N232A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
L233A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
35 V242A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
V243A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
V244A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
E245A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

T246A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 N247A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 W248A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 P249A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 5 C252A,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P255A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 A256C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Y257A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 A258C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 10 F259A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P260A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 D262A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L263A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 Q273A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 15 F276A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L277A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 L280A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 V283A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 V293A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 20 Y294A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 Y295A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 W296A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 E297A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P298A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 25 A2990C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 W300A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 I301A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 G302A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N303A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 30 A304C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 G305A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L306A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 G307A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 S308A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 35 S309A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 C310A,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 A311C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 D312A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

N313A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;

L314A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;

M315A,C,D,E,F,G,H,I,K,L,N,P,Q,R,S,T,V,W,Y;

V316A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;

5 D317A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

Y318A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;

T319A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;

D320A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

V322A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;

10 Y323A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;

I326A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y; and/or

L329A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; and/or

(e) E18F,Y,W; L12V; L80F; L82Y; F191Y,W; Y213F; E18W+L12V; L82Y+L80F.

15 14. The variant of any one of claims 11-13 which is a variant of an *Aspergillus aculeatus* galactanase.

15. The variant of any one of claims 1-2, wherein the variant comprises at least one of the following substitutions: K-6P; S-4P; L-2P; K1P; F3P;

20 K5A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y; G6A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

V7A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; D8A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

V9A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; S10A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;

S11A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; I12A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;

I13A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y; A14C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

25 L15A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; E16A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

S18A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; V20A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;

F22A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; N24C,P; E25P; S26P; K29P; Q30C; D31P;

I32A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y; L36A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;

A39C; G40C; V41P; Y43A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;

30 V44A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; R45A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;

V46A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; R47A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;

I48A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y; W49A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;

N50A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y; D51A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

P52A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y; Y53A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;

35 D54A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; A54aP;

G54eA,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; Y54fA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;

G54gA,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

G54hA,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

G55A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; N56A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 N57A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y; D58A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 K61A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y; A62C; I65C; A69C;
 L77A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; D79A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 5 F80A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; H81A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Y82A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W; S83A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 D84A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; F85A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 W86A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y; A87C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 D88A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; P89A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 10 A90C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; K91A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y;
 Q92A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y; K93A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y;
 A94C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; P95A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 K96A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y; A97P; N101P; K106C; T107H,S; Y110C;
 T113C; K114C; D126E; Q131A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 15 G133A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N134A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 E135A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T136A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 N137A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 20 G139A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L140A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 A141C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *142A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; *144P;
 G146A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; E147P; W150C; A159C; A163C; *169P;
 25 S171P; N172P; H178A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 F179A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T180A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 N181A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 P182A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 30 E183A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T184A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 S185A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 G186A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 R187A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
 35 Y188A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 A189C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 I191A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y; T194C; H198P; *200P; H203P; V204P;
 A210C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

S211A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 S212A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 Y213A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 Y214A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 5 P215A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 F216A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; F216FVASTG;
 W217A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 *218A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *219A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 10 H220A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 G221A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T222A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L223A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 K224A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y;
 15 N225A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 L226A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 T227A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 S228A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 V229A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 20 L230A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 T231A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 S232A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 V233A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; A234C;
 V241A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 25 M242A,C,D,E,F,G,H,I,K,L,N,P,Q,R,S,T,V,W,Y;
 V243A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 A244C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 E245A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T246A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 30 S247A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 Y248A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 T249A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 Y250A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 A252C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 35 D252dA,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 G252eA,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 H253A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

G254A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N255A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 T256A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 A257C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 5 P258A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 K259A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y;
 N260A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 G261A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Q262A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 10 T263A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 L264A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 N265A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 N266P; Q273A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y; A274C;
 A276C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 15 V277A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 V280A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 A283C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; D286P; G288P; E288aP, A289P;
 V293A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 F294A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 20 Y295A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 W296A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 E297A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P298A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 A299C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 25 W300A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 I301A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P302A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 V302aA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 A302dP; N302jA,C,D,E,F,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 30 K302kA,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y;
 L302mA,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 W302nA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 E302oA,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Y302qA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 35 G302rA,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 S302sA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 G302tA,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 W302uA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;

A302vC,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T302xA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 S302yA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 Y302zA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 5 A302aaC,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 A302bbC,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; E302ccP;
 Y302ddA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 D302eeA,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P302ffA,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 10 E302ggA,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 D302hhA,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 A302iiC,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 G302jjA,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 K303A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y;
 15 W304A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 F305A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 G306A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 G307A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 S308A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 20 A309C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V310A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 D311A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N312A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 Q313A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 25 A314C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L315A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 F316A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 D317A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 F318A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 30 K319A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y;
 G320A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 R321A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
 P322A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 L323A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; S325P;
 35 L326A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; H327P; V328C;
 F329A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; and/or Q330C.

16. The variant of claim 15, wherein the variant comprises at least one of the following substitutions: K-6P; S-4P; L-2P; K1P; K5A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y;

G6A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; V7A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;

D8A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; V9A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;

5 S10A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; S11A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;

A14C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; L15A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;

S18C;V20P; S26P; K29P; D31P; G40C; Y43A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;

V44A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; R45A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;

V46A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; R47A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;

10 I48A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y; W49A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;

N50A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y; D51A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

P52A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y; Y53A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;

A54aP; G54eA,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

Y54fA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W; G54gA,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

15 G54hA,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; G55A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

N56A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y; N57A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;

A62C; A69C; L77A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;

D79A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; F80A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

H81A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y; Y82A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;

20 S83A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; D84A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

F85A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; W86A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;

A87C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; D88A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

P89A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y; A90C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

K91A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y; Q92A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;

25 K93A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y; A94C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

P95A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y; A97P; N101P; K106C; K114C;

Q131A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;

G133A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

N134A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;

30 E135A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

T136A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;

N137A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;

G139A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

L140A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;

35 A141C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

*142A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; *144P;

G146A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; A159C; A163C; S171P;

H178A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

F179A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T180A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 N181A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 P182A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 5 E183A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T184A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y; S185P;
 R187A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
 Y188A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 S211A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 10 S212A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 Y213A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 Y214A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 P215A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 F216A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; F216FVASTG;
 15 W217A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 H220A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 G221A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T222A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L223A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 20 N225A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 L226A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 T227C; A234C; V241C; V243A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 A244C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 E245A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 25 T246A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 S247A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 Y248A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 T249A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 Y250C; D252dA,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 30 G252eA,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 H253A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 G254A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N255A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 T256A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 35 A257C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P258A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 K259A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y;

N260A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 G261A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Q262A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 T263A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 5 L264A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 N265A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 N266P; Q273A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 A276C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V277A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 10 V280A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; A283C; D286P; E288aP; A289P;
 V293A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 F294A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Y295A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 W296A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 15 E297A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P298A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 A299C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 W300A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 I301A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 20 V302aA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; A302dP;
 N302jA,C,D,E,F,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 K302kA,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y;
 L302mA,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 W302nA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 25 E302oA,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Y302qA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 G302rA,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 S302sA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 G302tA,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 30 W302uA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 A302vC,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T302xA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 S302yA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 Y302zA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 35 A302aaC,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 A302bbC,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; E302ccP;
 Y302ddA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 D302eeA,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

- P302ffA,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 E302ggA,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 D302hhA,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 A302iiC,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 5 G302jjA,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 K303A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y;
 W304A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 F305A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 G306A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 10 G307A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 S308A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 A309C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V310A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 D311A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 15 N312A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 Q313A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 A314C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L315A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 F316A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; F318P;
 20 F329A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; and/or Q330C.

17. The variant of claim 16, wherein the variant comprises at least one of the following substitutions:

- (a) K-6P, S-4P, L-2P, K1P, V20P, S26P, K29P, D31P, A54aP, G54eP, N57P, K93P, A97P,
 25 N101P, S171P, S185P, T256P, N260P, N266P, D286P, E288aP, A289P, A302dP, S302yP,
 Y302zP, A302bbP, E302ccP, E302ggP, F305P, D311P, F318P;
 (b) S18C+Y302qC, G40C+Q330C, V44C+A69C, I48C+A62C, N50C+D84C,
 G54gC+T302xC, N56C+G302rC, A62C+G146C, K106C+A159C, K114C+A163C,
 E183C+G221C, T227C+A283C, A234C+V241C, Y250C+Q273C, A302aaC+A302iiC; and/or
 30 (c) K5A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y; G6A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V7A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; D8A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V9A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; S10A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 S11A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; A14C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L15A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y; Y43A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 35 V44A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; R45A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
 V46A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; R47A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
 I48A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y; W49A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 N50A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y; D51A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

P52A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y; Y53A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 G54eA,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; Y54fA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 G54gA,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 G54hA,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 5 G55A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; N56A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 N57A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y; L77A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 D79A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; F80A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 H81A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y; Y82A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 S83A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y; D84A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 10 F85A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; W86A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 A87C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; D88A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P89A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y; A90C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 K91A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y; Q92A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 K93A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y; A94C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 15 P95A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y; Q131A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 G133A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N134A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 E135A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T136A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 20 N137A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 G139A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L140A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 A141C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 *142A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; *144P;
 25 G146A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 H178A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 F179A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T180A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 N181A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 30 P182A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 E183A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T184A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 R187A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
 Y188A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 35 S211A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 S212A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 Y213A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 Y214A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;

P215A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 F216A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; F216FVASTG;
 W217A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 H220A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 5 G221A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T222A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 L223A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 N225A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 L226A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 10 V243A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 A244C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 E245A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T246A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 S247A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 15 Y248A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 T249A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y; Y250C;
 D252dA,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 G252eA,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 H253A,C,D,E,F,G,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 20 G254A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 N255A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 T256A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 A257C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P258A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 25 K259A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y;
 N260A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 G261A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Q262A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 T263A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 30 L264A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 N265A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 Q273A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
 A276C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V277A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 35 V280A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 V293A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
 F294A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Y295A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;

W296A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 E297A,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 P298A,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 A299C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 5 W300A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 I301A,C,D,E,F,G,H,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V302aA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y; N302jA,C,D,E,F,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
 K302kA,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y;
 L302mA,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;
 10 W302nA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 E302oA,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Y302qA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 G302rA,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 S302sA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 15 G302tA,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 W302uA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 A302vC,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 T302xA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
 S302yA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 20 Y302zA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 A302aaC,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 A302bbC,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 Y302ddA,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
 D302eeA,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 25 P302ffA,C,D,E,F,G,H,I,K,L,M,N,Q,R,S,T,V,W,Y;
 E302ggA,C,D,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 D302hhA,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 A302iiC,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 G302jjA,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 30 K303A,C,D,E,F,G,H,I,L,M,N,P,Q,R,S,T,V,W,Y;
 W304A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,Y;
 F305A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 G306A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 G307A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 35 S308A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
 A309C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
 V310A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;

D311A,C,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

N312A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;

Q313A,C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;

A314C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

5 L315A,C,D,E,F,G,H,I,K,M,N,P,Q,R,S,T,V,W,Y;

F316A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y; and/or

F329A,C,D,E,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y.

10 18. The variant of any one of claims 15-17 which is a variant of a *Bacillus licheniformis* galactanase.

15 19. The variant of any one of claims 1-18, wherein the number designating each position is the number of the corresponding amino acid residue in SEQ ID NO: 1, said corresponding amino acid residue being derivable from an alignment according to Fig. 5 or 6, said alignment including the parent galactanase.

20 20. The variant of any one of claims 1-19, wherein the parent galactanase has an amino acid sequence which has a degree of identity to the amino acid sequence of SEQ ID NO: 1 of at least 25%.

21. The variant of any one of claims 1-20, wherein the parent galactanase is obtained from a strain of *Yersinia*, *Aspergillus*, *Humicola*, *Meripilus*, *Myceliophthora*, or *Thermomyces*, or from a strain of *Bacillus*, *Bifidobacterium*, *Cellvibrio*, *Clostridium*, *Pseudomonas*, *Thermotoga*, or *Xanthomonas*.

25 22. An isolated nucleic acid sequence comprising a nucleic acid sequence which encodes the galactanase variant of any one of claims 1-21.

30 23. A nucleic acid construct comprising the nucleic acid sequence of claim 22 operably linked to one or more control sequences that direct the production of the galactanase variant in a suitable expression host.

24. A recombinant expression vector comprising the nucleic acid construct of claim 23.

35 25. A recombinant host cell comprising the nucleic acid construct of claim 23 or the vector of claim 24.

26. A method for producing a galactanase variant of any one of claims 1-21, the method comprising (a) cultivating a recombinant host cell of claim 25; and (b) recovering the polypeptide.

5 27. Use of at least one galactanase variant of any one of claims 1-4 in the dairy industry.

28. The use of claim 27 to prepare galacto-oligo-saccharides and/or for hydrolysis of lactose.

ABSTRACT

Variants of Glycoside Hydrolase family 53 galactanases, e.g. variants of the galactanases from strains of *Yersinia*, *Aspergillus*, *Humicola*, *Meripilus*, *Myceliophthora*, *Thermomyces*, *Bacillus*, *Bifidobacterium*, *Cellvibrio*, *Clostridium*, *Pseudomonas*, *Thermotoga*, or

5 *Xanthomonas*.

08 APR. 2003

1/174

PVS

								MTGL	
HEADER									
ATOM	1	CB	ALA	1	15.214	-2.789	18.265	1.00	29.91
ATOM	2	C	ALA	1	17.670	-3.053	17.823	1.00	27.24
ATOM	3	O	ALA	1	18.335	-2.394	17.026	1.00	27.44
ATOM	4	N	ALA	1	16.132	-5.006	17.678	1.00	29.26
ATOM	5	CA	ALA	1	16.268	-3.540	17.450	1.00	28.32
ATOM	6	N	LEU	2	18.116	-3.378	19.034	1.00	25.13
ATOM	7	CA	LEU	2	19.439	-2.955	19.486	1.00	23.17
ATOM	8	CB	LEU	2	19.648	-3.322	20.957	1.00	23.07
ATOM	9	CG	LEU	2	18.891	-2.507	22.005	1.00	23.57
ATOM	10	CD1	LEU	2	19.156	-3.090	23.384	1.00	23.95
ATOM	11	CD2	LEU	2	19.330	-1.057	21.940	1.00	23.31
ATOM	12	C	LEU	2	20.560	-3.574	18.664	1.00	22.07
ATOM	13	O	LEU	2	20.524	-4.757	18.340	1.00	21.83
ATOM	14	N	THR	3	21.557	-2.767	18.329	1.00	20.29
ATOM	15	CA	THR	3	22.699	-3.257	17.575	1.00	19.63
ATOM	16	CB	THR	3	23.506	-2.100	16.978	1.00	20.33
ATOM	17	OG1	THR	3	22.674	-1.360	16.083	1.00	20.92
ATOM	18	CG2	THR	3	24.728	-2.626	16.227	1.00	20.96
ATOM	19	C	THR	3	23.610	-4.038	18.515	1.00	19.16
ATOM	20	O	THR	3	24.131	-5.092	18.156	1.00	19.29
ATOM	21	N	TYR	4	23.796	-3.514	19.724	1.00	18.09
ATOM	22	CA	TYR	4	24.652	-4.159	20.715	1.00	17.42
ATOM	23	CB	TYR	4	25.724	-3.180	21.202	1.00	17.15
ATOM	24	CG	TYR	4	26.514	-2.544	20.082	1.00	18.02
ATOM	25	CD1	TYR	4	27.516	-3.251	19.412	1.00	17.43
ATOM	26	CE1	TYR	4	28.210	-2.678	18.348	1.00	18.07
ATOM	27	CD2	TYR	4	26.229	-1.246	19.661	1.00	17.07
ATOM	28	CE2	TYR	4	26.916	-0.666	18.598	1.00	18.55
ATOM	29	CZ	TYR	4	27.902	-1.386	17.948	1.00	17.59
ATOM	30	OH	TYR	4	28.564	-0.814	16.891	1.00	18.07
ATOM	31	C	TYR	4	23.858	-4.657	21.912	1.00	16.29
ATOM	32	O	TYR	4	23.210	-3.876	22.615	1.00	16.95
ATOM	33	N	ARG	5	23.907	-5.964	22.125	1.00	15.87
ATOM	34	CA	ARG	5	23.232	-6.611	23.244	1.00	16.37
ATOM	35	CB	ARG	5	22.281	-7.711	22.746	1.00	17.04
ATOM	36	CG	ARG	5	21.203	-7.235	21.764	1.00	18.21
ATOM	37	CD	ARG	5	20.189	-8.348	21.482	1.00	18.30
ATOM	38	NE	ARG	5	20.839	-9.547	20.950	1.00	19.36
ATOM	39	CZ	ARG	5	21.243	-9.681	19.692	1.00	20.62
ATOM	40	NH1	ARG	5	21.054	-8.696	18.824	1.00	19.45
ATOM	41	NH2	ARG	5	21.864	-10.790	19.307	1.00	21.29
ATOM	42	C	ARG	5	24.390	-7.238	24.009	1.00	16.18
ATOM	43	O	ARG	5	24.869	-8.311	23.642	1.00	16.58
ATOM	44	N	GLY	6	24.853	-6.577	25.064	1.00	16.16
ATOM	45	CA	GLY	6	25.991	-7.135	25.770	1.00	16.79
ATOM	46	C	GLY	6	26.064	-7.065	27.275	1.00	15.64
ATOM	47	O	GLY	6	25.129	-6.664	27.968	1.00	15.46
ATOM	48	N	VAL	7	27.213	-7.497	27.775	1.00	15.87
ATOM	49	CA	VAL	7	27.491	-7.500	29.199	1.00	15.12
ATOM	50	CB	VAL	7	27.178	-8.877	29.846	1.00	14.43
ATOM	51	CG1	VAL	7	25.750	-9.293	29.537	1.00	12.85
ATOM	52	CG2	VAL	7	28.170	-9.931	29.348	1.00	13.29
ATOM	53	C	VAL	7	28.977	-7.238	29.363	1.00	16.14
ATOM	54	O	VAL	7	29.768	-7.469	28.440	1.00	17.27
ATOM	55	N	ASP	8	29.354	-6.737	30.531	1.00	15.62
ATOM	56	CA	ASP	8	30.755	-6.514	30.842	1.00	15.20
ATOM	57	CB	ASP	8	30.920	-5.292	31.751	1.00	14.35

Fig. 1

08 APR 2003

10319.010-DK

2/174

PVS

ATOM	58	CG	ASP	8	32.373	-4.975	32.034	1.00	15.24	MTGL
ATOM	59	OD1	ASP	8	33.105	-5.881	32.486	1.00	14.12	MTGL
ATOM	60	OD2	ASP	8	32.784	-3.817	31.805	1.00	14.89	MTGL
ATOM	61	C	ASP	8	31.108	-7.793	31.602	1.00	14.33	MTGL
ATOM	62	O	ASP	8	30.573	-8.040	32.683	1.00	15.61	MTGL
ATOM	63	N	TRP	9	31.980	-8.614	31.027	1.00	13.27	MTGL
ATOM	64	CA	TRP	9	32.365	-9.872	31.653	1.00	13.40	MTGL
ATOM	65	CB	TRP	9	32.124	-11.020	30.663	1.00	12.58	MTGL
ATOM	66	CG	TRP	9	33.183	-11.146	29.585	1.00	13.96	MTGL
ATOM	67	CD2	TRP	9	33.682	-12.362	29.012	1.00	13.39	MTGL
ATOM	68	CE2	TRP	9	34.661	-12.008	28.057	1.00	13.29	MTGL
ATOM	69	CE3	TRP	9	33.396	-13.719	29.214	1.00	14.51	MTGL
ATOM	70	CD1	TRP	9	33.860	-10.128	28.964	1.00	14.11	MTGL
ATOM	71	NE1	TRP	9	34.752	-10.640	28.046	1.00	13.31	MTGL
ATOM	72	CZ2	TRP	9	35.357	-12.964	27.305	1.00	14.73	MTGL
ATOM	73	CZ3	TRP	9	34.093	-14.673	28.463	1.00	14.84	MTGL
ATOM	74	CH2	TRP	9	35.059	-14.287	27.523	1.00	14.12	MTGL
ATOM	75	C	TRP	9	33.832	-9.860	32.102	1.00	13.91	MTGL
ATOM	76	O	TRP	9	34.454	-10.915	32.272	1.00	13.71	MTGL
ATOM	77	N	SER	10	34.373	-8.660	32.295	1.00	13.08	MTGL
ATOM	78	CA	SER	10	35.770	-8.481	32.692	1.00	14.15	MTGL
ATOM	79	CB	SER	10	35.983	-7.052	33.193	1.00	13.75	MTGL
ATOM	80	OG	SER	10	35.691	-6.114	32.168	1.00	14.07	MTGL
ATOM	81	C	SER	10	36.321	-9.460	33.726	1.00	14.36	MTGL
ATOM	82	O	SER	10	37.414	-9.994	33.553	1.00	14.45	MTGL
ATOM	83	N	SER	11	35.561	-9.697	34.789	1.00	14.45	MTGL
ATOM	84	CA	SER	11	35.985	-10.588	35.870	1.00	15.55	MTGL
ATOM	85	CB	SER	11	35.053	-10.416	37.069	1.00	15.32	MTGL
ATOM	86	OG	SER	11	33.795	-11.014	36.792	1.00	13.85	MTGL
ATOM	87	C	SER	11	36.043	-12.080	35.544	1.00	16.02	MTGL
ATOM	88	O	SER	11	36.438	-12.870	36.401	1.00	16.91	MTGL
ATOM	89	N	VAL	12	35.656	-12.472	34.330	1.00	16.04	MTGL
ATOM	90	CA	VAL	12	35.640	-13.890	33.969	1.00	14.89	MTGL
ATOM	91	CB	VAL	12	35.367	-14.090	32.448	1.00	14.61	MTGL
ATOM	92	CG1	VAL	12	36.418	-13.371	31.604	1.00	13.79	MTGL
ATOM	93	CG2	VAL	12	35.336	-15.583	32.124	1.00	13.78	MTGL
ATOM	94	C	VAL	12	36.861	-14.726	34.373	1.00	15.76	MTGL
ATOM	95	O	VAL	12	36.709	-15.751	35.034	1.00	14.51	MTGL
ATOM	96	N	VAL	13	38.065	-14.312	33.990	1.00	16.87	MTGL
ATOM	97	CA	VAL	13	39.246	-15.100	34.343	1.00	17.35	MTGL
ATOM	98	CB	VAL	13	40.496	-14.656	33.534	1.00	17.20	MTGL
ATOM	99	CG1	VAL	13	41.775	-15.198	34.177	1.00	16.12	MTGL
ATOM	100	CG2	VAL	13	40.391	-15.193	32.109	1.00	15.88	MTGL
ATOM	101	C	VAL	13	39.534	-15.043	35.841	1.00	18.53	MTGL
ATOM	102	O	VAL	13	40.002	-16.024	36.430	1.00	19.44	MTGL
ATOM	103	N	VAL	14	39.242	-13.907	36.466	1.00	17.79	MTGL
ATOM	104	CA	VAL	14	39.463	-13.785	37.900	1.00	18.35	MTGL
ATOM	105	CB	VAL	14	39.106	-12.368	38.411	1.00	18.68	MTGL
ATOM	106	CG1	VAL	14	39.117	-12.347	39.939	1.00	19.58	MTGL
ATOM	107	CG2	VAL	14	40.113	-11.352	37.876	1.00	17.40	MTGL
ATOM	108	C	VAL	14	38.588	-14.816	38.620	1.00	17.85	MTGL
ATOM	109	O	VAL	14	39.034	-15.495	39.543	1.00	17.72	MTGL
ATOM	110	N	GLU	15	37.341	-14.941	38.181	1.00	17.47	MTGL
ATOM	111	CA	GLU	15	36.420	-15.889	38.800	1.00	18.52	MTGL
ATOM	112	CB	GLU	15	34.985	-15.585	38.373	1.00	19.09	MTGL
ATOM	113	CG	GLU	15	34.392	-14.361	39.056	1.00	20.86	MTGL
ATOM	114	CD	GLU	15	34.147	-14.579	40.542	1.00	22.32	MTGL
ATOM	115	OE1	GLU	15	35.113	-14.887	41.273	1.00	23.29	MTGL

Fig. 1 cont.

ATOM	116	OE2	GLU	15	32.984	-14.445	40.981	1.00	22.28	MTGL
ATOM	117	C	GLU	15	36.753	-17.346	38.502	1.00	18.21	MTGL
ATOM	118	O	GLU	15	36.640	-18.196	39.377	1.00	19.29	MTGL
ATOM	119	N	GLU	16	37.151	-17.639	37.272	1.00	18.79	MTGL
ATOM	120	CA	GLU	16	37.504	-19.006	36.921	1.00	19.07	MTGL
ATOM	121	CB	GLU	16	37.827	-19.103	35.424	1.00	19.33	MTGL
ATOM	122	CG	GLU	16	36.645	-18.735	34.530	1.00	19.54	MTGL
ATOM	123	CD	GLU	16	36.970	-18.798	33.049	1.00	19.73	MTGL
ATOM	124	OE1	GLU	16	38.143	-18.577	32.683	1.00	19.62	MTGL
ATOM	125	OE2	GLU	16	36.048	-19.048	32.244	1.00	20.12	MTGL
ATOM	126	C	GLU	16	38.706	-19.425	37.767	1.00	18.57	MTGL
ATOM	127	O	GLU	16	38.766	-20.557	38.250	1.00	17.78	MTGL
ATOM	128	N	ARG	17	39.640	-18.492	37.960	1.00	17.17	MTGL
ATOM	129	CA	ARG	17	40.842	-18.759	38.756	1.00	18.26	MTGL
ATOM	130	CB	ARG	17	41.872	-17.646	38.568	1.00	17.11	MTGL
ATOM	131	CG	ARG	17	42.593	-17.719	37.240	1.00	16.83	MTGL
ATOM	132	CD	ARG	17	43.446	-16.496	37.009	1.00	15.44	MTGL
ATOM	133	NE	ARG	17	44.246	-16.636	35.801	1.00	15.36	MTGL
ATOM	134	CZ	ARG	17	45.084	-15.708	35.357	1.00	15.76	MTGL
ATOM	135	NH1	ARG	17	45.225	-14.570	36.025	1.00	15.62	MTGL
ATOM	136	NH2	ARG	17	45.788	-15.922	34.254	1.00	15.66	MTGL
ATOM	137	C	ARG	17	40.502	-18.887	40.225	1.00	18.97	MTGL
ATOM	138	O	ARG	17	41.279	-19.407	41.017	1.00	19.60	MTGL
ATOM	139	N	ALA	18	39.330	-18.396	40.590	1.00	19.85	MTGL
ATOM	140	CA	ALA	18	38.890	-18.486	41.967	1.00	21.00	MTGL
ATOM	141	CB	ALA	18	38.071	-17.262	42.339	1.00	21.45	MTGL
ATOM	142	C	ALA	18	38.066	-19.756	42.154	1.00	21.18	MTGL
ATOM	143	O	ALA	18	37.495	-19.982	43.216	1.00	21.53	MTGL
ATOM	144	N	GLY	19	37.994	-20.577	41.110	1.00	20.78	MTGL
ATOM	145	CA	GLY	19	37.265	-21.827	41.218	1.00	21.14	MTGL
ATOM	146	C	GLY	19	35.833	-21.845	40.716	1.00	21.86	MTGL
ATOM	147	O	GLY	19	35.124	-22.833	40.901	1.00	20.92	MTGL
ATOM	148	N	VAL	20	35.386	-20.769	40.080	1.00	21.60	MTGL
ATOM	149	CA	VAL	20	34.021	-20.755	39.578	1.00	21.91	MTGL
ATOM	150	CB	VAL	20	33.533	-19.321	39.264	1.00	23.06	MTGL
ATOM	151	CG1	VAL	20	32.126	-19.370	38.674	1.00	22.39	MTGL
ATOM	152	CG2	VAL	20	33.530	-18.475	40.530	1.00	22.53	MTGL
ATOM	153	C	VAL	20	33.877	-21.589	38.305	1.00	21.53	MTGL
ATOM	154	O	VAL	20	34.673	-21.473	37.377	1.00	21.65	MTGL
ATOM	155	N	SER	21	32.864	-22.444	38.283	0.50	21.24	MTGL
ATOM	156	CA	SER	21	32.596	-23.272	37.116	0.50	21.35	MTGL
ATOM	157	CB	SER	21	32.602	-24.757	37.488	0.50	22.01	MTGL
ATOM	158	OG	SER	21	33.897	-25.165	37.901	0.50	22.69	MTGL
ATOM	159	C	SER	21	31.227	-22.857	36.605	0.50	20.74	MTGL
ATOM	160	O	SER	21	30.205	-23.167	37.214	0.50	20.32	MTGL
ATOM	161	N	TYR	22	31.216	-22.134	35.491	1.00	20.34	MTGL
ATOM	162	CA	TYR	22	29.972	-21.659	34.914	1.00	20.72	MTGL
ATOM	163	CB	TYR	22	30.270	-20.511	33.952	1.00	19.18	MTGL
ATOM	164	CG	TYR	22	30.765	-19.280	34.682	1.00	18.50	MTGL
ATOM	165	CD1	TYR	22	29.909	-18.548	35.503	1.00	17.85	MTGL
ATOM	166	CE1	TYR	22	30.357	-17.428	36.202	1.00	17.95	MTGL
ATOM	167	CD2	TYR	22	32.092	-18.865	34.578	1.00	17.87	MTGL
ATOM	168	CE2	TYR	22	32.552	-17.744	35.275	1.00	17.81	MTGL
ATOM	169	CZ	TYR	22	31.676	-17.031	36.083	1.00	17.46	MTGL
ATOM	170	OH	TYR	22	32.107	-15.915	36.767	1.00	17.47	MTGL
ATOM	171	C	TYR	22	29.152	-22.742	34.239	1.00	21.41	MTGL
ATOM	172	O	TYR	22	29.688	-23.634	33.588	1.00	21.91	MTGL
ATOM	173	N	LYS	23	27.839	-22.654	34.414	1.00	22.66	MTGL

Fig. 1 cont.

ATOM	174	CA	LYS	23	26.918	-23.619	33.836	1.00	23.97	MTGL
ATOM	175	CB	LYS	23	26.387	-24.537	34.936	1.00	24.47	MTGL
ATOM	176	CG	LYS	23	27.479	-25.094	35.839	1.00	26.17	MTGL
ATOM	177	CD	LYS	23	26.894	-25.778	37.066	1.00	28.12	MTGL
ATOM	178	CE	LYS	23	27.985	-26.217	38.040	1.00	29.23	MTGL
ATOM	179	NZ	LYS	23	28.750	-25.069	38.615	1.00	28.37	MTGL
ATOM	180	C	LYS	23	25.748	-22.915	33.158	1.00	24.07	MTGL
ATOM	181	O	LYS	23	25.344	-21.823	33.570	1.00	23.42	MTGL
ATOM	182	N	ASN	24	25.210	-23.557	32.125	1.00	25.34	MTGL
ATOM	183	CA	ASN	24	24.074	-23.020	31.390	1.00	26.76	MTGL
ATOM	184	CB	ASN	24	23.907	-23.741	30.042	1.00	27.22	MTGL
ATOM	185	CG	ASN	24	23.925	-25.258	30.174	1.00	28.00	MTGL
ATOM	186	OD1	ASN	24	23.306	-25.825	31.075	1.00	28.00	MTGL
ATOM	187	ND2	ASN	24	24.626	-25.923	29.258	1.00	28.41	MTGL
ATOM	188	C	ASN	24	22.802	-23.171	32.216	1.00	27.53	MTGL
ATOM	189	O	ASN	24	22.830	-23.727	33.315	1.00	26.87	MTGL
ATOM	190	N	THR	25	21.691	-22.668	31.687	1.00	29.20	MTGL
ATOM	191	CA	THR	25	20.408	-22.754	32.378	1.00	31.61	MTGL
ATOM	192	CB	THR	25	19.299	-21.968	31.619	1.00	31.89	MTGL
ATOM	193	OG1	THR	25	19.269	-22.380	30.245	1.00	32.33	MTGL
ATOM	194	CG2	THR	25	19.558	-20.468	31.689	1.00	30.90	MTGL
ATOM	195	C	THR	25	19.968	-24.209	32.540	1.00	33.20	MTGL
ATOM	196	O	THR	25	19.107	-24.518	33.362	1.00	34.49	MTGL
ATOM	197	N	ASN	26	20.561	-25.101	31.754	1.00	33.98	MTGL
ATOM	198	CA	ASN	26	20.229	-26.521	31.831	1.00	34.91	MTGL
ATOM	199	CB	ASN	26	20.595	-27.233	30.529	1.00	37.07	MTGL
ATOM	200	CG	ASN	26	19.515	-27.114	29.479	1.00	38.98	MTGL
ATOM	201	OD1	ASN	26	19.743	-27.405	28.305	1.00	40.46	MTGL
ATOM	202	ND2	ASN	26	18.325	-26.696	29.898	1.00	39.01	MTGL
ATOM	203	C	ASN	26	21.000	-27.153	32.967	1.00	33.95	MTGL
ATOM	204	O	ASN	26	20.752	-28.294	33.356	1.00	34.07	MTGL
ATOM	205	N	GLY	27	21.952	-26.402	33.493	1.00	32.34	MTGL
ATOM	206	CA	GLY	27	22.739	-26.928	34.583	1.00	30.16	MTGL
ATOM	207	C	GLY	27	24.009	-27.629	34.140	1.00	29.51	MTGL
ATOM	208	O	GLY	27	24.692	-28.244	34.950	1.00	28.86	MTGL
ATOM	209	N	ASN	28	24.350	-27.547	32.864	1.00	29.22	MTGL
ATOM	210	CA	ASN	28	25.565	-28.205	32.419	1.00	28.62	MTGL
ATOM	211	CB	ASN	28	25.323	-28.945	31.108	1.00	30.49	MTGL
ATOM	212	CG	ASN	28	24.313	-30.063	31.258	1.00	31.94	MTGL
ATOM	213	OD1	ASN	28	24.453	-30.930	32.124	1.00	32.14	MTGL
ATOM	214	ND2	ASN	28	23.288	-30.049	30.417	1.00	32.11	MTGL
ATOM	215	C	ASN	28	26.714	-27.228	32.264	1.00	27.80	MTGL
ATOM	216	O	ASN	28	26.537	-26.085	31.831	1.00	26.86	MTGL
ATOM	217	N	ALA	29	27.897	-27.695	32.629	1.00	26.54	MTGL
ATOM	218	CA	ALA	29	29.103	-26.889	32.547	1.00	26.11	MTGL
ATOM	219	CB	ALA	29	30.290	-27.687	33.067	1.00	25.81	MTGL
ATOM	220	C	ALA	29	29.351	-26.456	31.110	1.00	25.11	MTGL
ATOM	221	O	ALA	29	29.232	-27.254	30.184	1.00	24.31	MTGL
ATOM	222	N	GLN	30	29.713	-25.192	30.932	1.00	23.82	MTGL
ATOM	223	CA	GLN	30	29.967	-24.655	29.603	1.00	23.10	MTGL
ATOM	224	CB	GLN	30	28.620	-24.424	28.901	1.00	23.68	MTGL
ATOM	225	CG	GLN	30	28.676	-23.687	27.578	1.00	26.45	MTGL
ATOM	226	CD	GLN	30	27.335	-23.695	26.858	1.00	27.43	MTGL
ATOM	227	OE1	GLN	30	26.282	-23.584	27.486	1.00	27.66	MTGL
ATOM	228	NE2	GLN	30	27.371	-23.815	25.537	1.00	27.00	MTGL
ATOM	229	C	GLN	30	30.748	-23.350	29.740	1.00	21.50	MTGL
ATOM	230	O	GLN	30	30.556	-22.609	30.700	1.00	21.61	MTGL
ATOM	231	N	PRO	31	31.661	-23.066	28.797	1.00	20.08	MTGL

Fig. 1 cont.

ATOM	232	CD	PRO	31	32.110	-23.886	27.657	1.00	20.60	MTGL
ATOM	233	CA	PRO	31	32.432	-21.820	28.886	1.00	19.48	MTGL
ATOM	234	CB	PRO	31	33.262	-21.834	27.603	1.00	20.47	MTGL
ATOM	235	CG	PRO	31	33.489	-23.309	27.369	1.00	20.52	MTGL
ATOM	236	C	PRO	31	31.492	-20.617	28.960	1.00	18.32	MTGL
ATOM	237	O	PRO	31	30.491	-20.558	28.246	1.00	17.02	MTGL
ATOM	238	N	LEU	32	31.811	-19.664	29.828	1.00	18.30	MTGL
ATOM	239	CA	LEU	32	30.971	-18.477	29.987	1.00	18.52	MTGL
ATOM	240	CB	LEU	32	31.623	-17.476	30.954	1.00	17.22	MTGL
ATOM	241	CG	LEU	32	30.828	-16.190	31.227	1.00	17.71	MTGL
ATOM	242	CD1	LEU	32	29.443	-16.536	31.767	1.00	15.78	MTGL
ATOM	243	CD2	LEU	32	31.588	-15.319	32.235	1.00	15.40	MTGL
ATOM	244	C	LEU	32	30.655	-17.776	28.669	1.00	17.46	MTGL
ATOM	245	O	LEU	32	29.504	-17.413	28.429	1.00	18.85	MTGL
ATOM	246	N	GLU	33	31.660	-17.581	27.818	1.00	16.99	MTGL
ATOM	247	CA	GLU	33	31.421	-16.903	26.546	1.00	17.55	MTGL
ATOM	248	CB	GLU	33	32.716	-16.763	25.735	1.00	17.22	MTGL
ATOM	249	CG	GLU	33	33.426	-18.077	25.424	1.00	16.64	MTGL
ATOM	250	CD	GLU	33	34.496	-18.417	26.453	1.00	16.72	MTGL
ATOM	251	OE1	GLU	33	34.234	-18.270	27.667	1.00	14.95	MTGL
ATOM	252	OE2	GLU	33	35.597	-18.840	26.048	1.00	16.02	MTGL
ATOM	253	C	GLU	33	30.369	-17.630	25.712	1.00	18.39	MTGL
ATOM	254	O	GLU	33	29.576	-16.988	25.021	1.00	19.97	MTGL
ATOM	255	N	ASN	34	30.354	-18.959	25.779	1.00	18.00	MTGL
ATOM	256	CA	ASN	34	29.381	-19.739	25.019	1.00	19.90	MTGL
ATOM	257	CB	ASN	34	29.793	-21.214	24.955	1.00	21.66	MTGL
ATOM	258	CG	ASN	34	31.121	-21.420	24.251	1.00	24.08	MTGL
ATOM	259	OD1	ASN	34	31.355	-20.886	23.168	1.00	25.77	MTGL
ATOM	260	ND2	ASN	34	31.995	-22.207	24.861	1.00	26.27	MTGL
ATOM	261	C	ASN	34	27.991	-19.618	25.640	1.00	19.84	MTGL
ATOM	262	O	ASN	34	26.988	-19.598	24.931	1.00	19.75	MTGL
ATOM	263	N	ILE	35	27.932	-19.553	26.967	1.00	18.73	MTGL
ATOM	264	CA	ILE	35	26.656	-19.404	27.656	1.00	18.63	MTGL
ATOM	265	CB	ILE	35	26.845	-19.440	29.188	1.00	18.28	MTGL
ATOM	266	CG2	ILE	35	25.556	-19.028	29.890	1.00	17.35	MTGL
ATOM	267	CG1	ILE	35	27.270	-20.844	29.623	1.00	18.06	MTGL
ATOM	268	CD1	ILE	35	27.652	-20.946	31.091	1.00	19.14	MTGL
ATOM	269	C	ILE	35	26.048	-18.053	27.258	1.00	18.92	MTGL
ATOM	270	O	ILE	35	24.867	-17.966	26.907	1.00	18.51	MTGL
ATOM	271	N	LEU	36	26.866	-17.005	27.313	1.00	18.03	MTGL
ATOM	272	CA	LEU	36	26.416	-15.665	26.956	1.00	17.16	MTGL
ATOM	273	CB	LEU	36	27.563	-14.660	27.110	1.00	17.06	MTGL
ATOM	274	CG	LEU	36	28.076	-14.411	28.538	1.00	16.94	MTGL
ATOM	275	CD1	LEU	36	29.323	-13.516	28.504	1.00	14.36	MTGL
ATOM	276	CD2	LEU	36	26.969	-13.761	29.372	1.00	16.43	MTGL
ATOM	277	C	LEU	36	25.891	-15.636	25.522	1.00	17.26	MTGL
ATOM	278	O	LEU	36	24.795	-15.132	25.270	1.00	16.08	MTGL
ATOM	279	N	ALA	37	26.675	-16.174	24.589	1.00	17.12	MTGL
ATOM	280	CA	ALA	37	26.278	-16.203	23.187	1.00	17.86	MTGL
ATOM	281	CB	ALA	37	27.362	-16.863	22.338	1.00	16.93	MTGL
ATOM	282	C	ALA	37	24.961	-16.948	23.014	1.00	18.20	MTGL
ATOM	283	O	ALA	37	24.062	-16.480	22.314	1.00	19.46	MTGL
ATOM	284	N	ALA	38	24.850	-18.105	23.658	1.00	18.38	MTGL
ATOM	285	CA	ALA	38	23.643	-18.917	23.560	1.00	20.05	MTGL
ATOM	286	CB	ALA	38	23.809	-20.212	24.358	1.00	19.05	MTGL
ATOM	287	C	ALA	38	22.419	-18.154	24.049	1.00	20.48	MTGL
ATOM	288	O	ALA	38	21.294	-18.447	23.634	1.00	21.25	MTGL
ATOM	289	N	ASN	39	22.637	-17.173	24.923	1.00	20.10	MTGL

Fig. 1 cont.

ATOM	290	CA	ASN	39	21.531	-16.390	25.460	1.00	19.15	MTGL
ATOM	291	CB	ASN	39	21.717	-16.168	26.963	1.00	19.77	MTGL
ATOM	292	CG	ASN	39	21.416	-17.414	27.774	1.00	19.60	MTGL
ATOM	293	OD1	ASN	39	22.241	-18.327	27.872	1.00	22.00	MTGL
ATOM	294	ND2	ASN	39	20.224	-17.467	28.346	1.00	18.25	MTGL
ATOM	295	C	ASN	39	21.253	-15.056	24.768	1.00	18.64	MTGL
ATOM	296	O	ASN	39	20.544	-14.213	25.317	1.00	19.42	MTGL
ATOM	297	N	GLY	40	21.803	-14.862	23.572	1.00	17.47	MTGL
ATOM	298	CA	GLY	40	21.535	-13.635	22.837	1.00	17.26	MTGL
ATOM	299	C	GLY	40	22.585	-12.537	22.880	1.00	17.22	MTGL
ATOM	300	O	GLY	40	22.523	-11.594	22.095	1.00	17.12	MTGL
ATOM	301	N	VAL	41	23.544	-12.641	23.791	1.00	16.80	MTGL
ATOM	302	CA	VAL	41	24.589	-11.631	23.893	1.00	15.92	MTGL
ATOM	303	CB	VAL	41	25.510	-11.908	25.103	1.00	16.19	MTGL
ATOM	304	CG1	VAL	41	26.630	-10.888	25.144	1.00	14.75	MTGL
ATOM	305	CG2	VAL	41	24.707	-11.875	26.397	1.00	15.59	MTGL
ATOM	306	C	VAL	41	25.441	-11.645	22.626	1.00	15.77	MTGL
ATOM	307	O	VAL	41	25.832	-12.715	22.158	1.00	14.76	MTGL
ATOM	308	N	ASN	42	25.724	-10.469	22.064	1.00	16.34	MTGL
ATOM	309	CA	ASN	42	26.559	-10.406	20.864	1.00	16.57	MTGL
ATOM	310	CB	ASN	42	25.771	-9.889	19.646	1.00	17.06	MTGL
ATOM	311	CG	ASN	42	25.299	-8.443	19.798	1.00	18.15	MTGL
ATOM	312	OD1	ASN	42	25.727	-7.709	20.694	1.00	18.63	MTGL
ATOM	313	ND2	ASN	42	24.416	-8.028	18.898	1.00	16.75	MTGL
ATOM	314	C	ASN	42	27.812	-9.560	21.048	1.00	16.81	MTGL
ATOM	315	O	ASN	42	28.651	-9.478	20.147	1.00	17.52	MTGL
ATOM	316	N	THR	43	27.952	-8.951	22.221	1.00	16.55	MTGL
ATOM	317	CA	THR	43	29.108	-8.108	22.502	1.00	15.96	MTGL
ATOM	318	CB	THR	43	28.827	-6.634	22.136	1.00	16.50	MTGL
ATOM	319	OG1	THR	43	28.192	-6.565	20.850	1.00	17.26	MTGL
ATOM	320	CG2	THR	43	30.123	-5.840	22.102	1.00	15.22	MTGL
ATOM	321	C	THR	43	29.487	-8.144	23.976	1.00	15.93	MTGL
ATOM	322	O	THR	43	28.618	-8.180	24.849	1.00	16.10	MTGL
ATOM	323	N	VAL	44	30.786	-8.148	24.251	1.00	14.74	MTGL
ATOM	324	CA	VAL	44	31.251	-8.136	25.626	1.00	15.41	MTGL
ATOM	325	CB	VAL	44	32.038	-9.418	26.012	1.00	16.13	MTGL
ATOM	326	CG1	VAL	44	31.084	-10.603	26.096	1.00	16.11	MTGL
ATOM	327	CG2	VAL	44	33.146	-9.689	25.004	1.00	14.58	MTGL
ATOM	328	C	VAL	44	32.137	-6.922	25.849	1.00	15.69	MTGL
ATOM	329	O	VAL	44	32.974	-6.574	25.014	1.00	16.22	MTGL
ATOM	330	N	ARG	45	31.916	-6.271	26.981	1.00	14.86	MTGL
ATOM	331	CA	ARG	45	32.662	-5.091	27.383	1.00	15.51	MTGL
ATOM	332	CB	ARG	45	31.702	-4.129	28.087	1.00	16.51	MTGL
ATOM	333	CG	ARG	45	32.297	-2.828	28.597	1.00	17.41	MTGL
ATOM	334	CD	ARG	45	31.143	-1.971	29.107	1.00	18.63	MTGL
ATOM	335	NE	ARG	45	31.519	-0.636	29.554	1.00	19.44	MTGL
ATOM	336	CZ	ARG	45	31.756	-0.309	30.820	1.00	19.56	MTGL
ATOM	337	NH1	ARG	45	31.671	-1.225	31.777	1.00	18.15	MTGL
ATOM	338	NH2	ARG	45	32.032	0.949	31.130	1.00	19.68	MTGL
ATOM	339	C	ARG	45	33.752	-5.561	28.342	1.00	15.10	MTGL
ATOM	340	O	ARG	45	33.516	-6.446	29.168	1.00	13.85	MTGL
ATOM	341	N	GLN	46	34.938	-4.965	28.232	1.00	14.87	MTGL
ATOM	342	CA	GLN	46	36.071	-5.331	29.074	1.00	14.52	MTGL
ATOM	343	CB	GLN	46	37.030	-6.246	28.296	1.00	14.23	MTGL
ATOM	344	CG	GLN	46	36.376	-7.512	27.746	1.00	14.12	MTGL
ATOM	345	CD	GLN	46	37.310	-8.358	26.902	1.00	13.86	MTGL
ATOM	346	OE1	GLN	46	36.895	-9.363	26.335	1.00	15.22	MTGL
ATOM	347	NE2	GLN	46	38.575	-7.958	26.814	1.00	13.21	MTGL

Fig. 1 cont.

ATOM	348	C	GLN	46	36.831	-4.089	29.534	1.00	15.79	MTGL
ATOM	349	O	GLN	46	37.153	-3.211	28.728	1.00	15.74	MTGL
ATOM	350	N	ARG	47	37.111	-4.005	30.830	1.00	15.01	MTGL
ATOM	351	CA	ARG	47	37.851	-2.866	31.350	1.00	15.05	MTGL
ATOM	352	CB	ARG	47	37.524	-2.631	32.828	1.00	13.91	MTGL
ATOM	353	CG	ARG	47	37.649	-3.868	33.710	1.00	13.56	MTGL
ATOM	354	CD	ARG	47	37.391	-3.520	35.175	1.00	13.26	MTGL
ATOM	355	NE	ARG	47	37.207	-4.710	36.004	1.00	12.49	MTGL
ATOM	356	CZ	ARG	47	36.063	-5.382	36.117	1.00	13.71	MTGL
ATOM	357	NH1	ARG	47	34.983	-4.981	35.457	1.00	13.79	MTGL
ATOM	358	NH2	ARG	47	36.004	-6.477	36.876	1.00	12.61	MTGL
ATOM	359	C	ARG	47	39.347	-3.107	31.182	1.00	15.50	MTGL
ATOM	360	O	ARG	47	39.849	-4.209	31.433	1.00	15.21	MTGL
ATOM	361	N	VAL	48	40.056	-2.072	30.745	1.00	15.84	MTGL
ATOM	362	CA	VAL	48	41.496	-2.171	30.557	1.00	15.53	MTGL
ATOM	363	CB	VAL	48	41.899	-1.874	29.102	1.00	16.38	MTGL
ATOM	364	CG1	VAL	48	43.418	-1.906	28.975	1.00	15.45	MTGL
ATOM	365	CG2	VAL	48	41.258	-2.892	28.160	1.00	14.39	MTGL
ATOM	366	C	VAL	48	42.222	-1.185	31.459	1.00	16.31	MTGL
ATOM	367	O	VAL	48	41.941	0.013	31.433	1.00	14.76	MTGL
ATOM	368	N	TRP	49	43.139	-1.707	32.270	1.00	16.64	MTGL
ATOM	369	CA	TRP	49	43.938	-0.890	33.172	1.00	17.13	MTGL
ATOM	370	CB	TRP	49	43.893	-1.458	34.598	1.00	17.19	MTGL
ATOM	371	CG	TRP	49	42.525	-1.365	35.239	1.00	17.50	MTGL
ATOM	372	CD2	TRP	49	42.129	-1.903	36.510	1.00	17.36	MTGL
ATOM	373	CE2	TRP	49	40.773	-1.550	36.710	1.00	17.08	MTGL
ATOM	374	CE3	TRP	49	42.786	-2.651	37.497	1.00	16.24	MTGL
ATOM	375	CD1	TRP	49	41.426	-0.728	34.736	1.00	17.53	MTGL
ATOM	376	NE1	TRP	49	40.370	-0.832	35.614	1.00	17.76	MTGL
ATOM	377	CZ2	TRP	49	40.063	-1.915	37.860	1.00	16.34	MTGL
ATOM	378	CZ3	TRP	49	42.079	-3.014	38.642	1.00	17.30	MTGL
ATOM	379	CH2	TRP	49	40.729	-2.645	38.812	1.00	16.66	MTGL
ATOM	380	C	TRP	49	45.369	-0.870	32.632	1.00	17.96	MTGL
ATOM	381	O	TRP	49	45.819	-1.830	32.007	1.00	16.92	MTGL
ATOM	382	N	VAL	50	46.078	0.228	32.874	1.00	18.74	MTGL
ATOM	383	CA	VAL	50	47.438	0.408	32.373	1.00	18.43	MTGL
ATOM	384	CB	VAL	50	47.898	1.865	32.604	1.00	17.51	MTGL
ATOM	385	CG1	VAL	50	49.310	2.061	32.069	1.00	16.69	MTGL
ATOM	386	CG2	VAL	50	46.931	2.814	31.912	1.00	16.38	MTGL
ATOM	387	C	VAL	50	48.492	-0.568	32.910	1.00	20.17	MTGL
ATOM	388	O	VAL	50	49.035	-1.359	32.141	1.00	20.17	MTGL
ATOM	389	N	ASN	51	48.809	-0.513	34.203	1.00	20.54	MTGL
ATOM	390	CA	ASN	51	49.800	-1.438	34.780	1.00	22.14	MTGL
ATOM	391	CB	ASN	51	51.181	-0.778	34.894	1.00	22.82	MTGL
ATOM	392	CG	ASN	51	51.899	-0.671	33.564	1.00	24.64	MTGL
ATOM	393	OD1	ASN	51	52.211	-0.430	33.102	1.00	25.29	MTGL
ATOM	394	ND2	ASN	51	52.180	-1.813	32.945	1.00	24.48	MTGL
ATOM	395	C	ASN	51	49.416	-1.943	36.173	1.00	22.18	MTGL
ATOM	396	O	ASN	51	50.177	-1.771	37.119	1.00	23.10	MTGL
ATOM	397	N	PRO	52	48.242	-2.584	36.317	1.00	21.49	MTGL
ATOM	398	CD	PRO	52	47.333	-3.089	35.273	1.00	20.91	MTGL
ATOM	399	CA	PRO	52	47.847	-3.079	37.642	1.00	20.88	MTGL
ATOM	400	CB	PRO	52	46.509	-3.769	37.370	1.00	20.37	MTGL
ATOM	401	CG	PRO	52	46.683	-4.283	35.963	1.00	20.56	MTGL
ATOM	402	C	PRO	52	48.905	-4.041	38.177	1.00	21.68	MTGL
ATOM	403	O	PRO	52	49.390	-4.902	37.449	1.00	20.78	MTGL
ATOM	404	N	ALA	53	49.261	-3.891	39.448	1.00	22.20	MTGL
ATOM	405	CA	ALA	53	50.278	-4.739	40.061	1.00	23.49	MTGL

Fig. 1 cont.

ATOM	406	CB	ALA	53	50.409	-4.407	41.549	1.00	23.83	MTGL
ATOM	407	C	ALA	53	50.037	-6.235	39.883	1.00	23.68	MTGL
ATOM	408	O	ALA	53	50.937	-6.960	39.466	1.00	23.33	MTGL
ATOM	409	N	ASP	54	48.831	-6.704	40.195	1.00	24.06	MTGL
ATOM	410	CA	ASP	54	48.539	-8.126	40.058	1.00	24.64	MTGL
ATOM	411	CB	ASP	54	47.400	-8.540	40.994	1.00	26.42	MTGL
ATOM	412	CG	ASP	54	46.109	-7.805	40.706	1.00	27.54	MTGL
ATOM	413	OD1	ASP	54	45.834	-7.515	39.522	1.00	29.32	MTGL
ATOM	414	OD2	ASP	54	45.360	-7.529	41.664	1.00	27.59	MTGL
ATOM	415	C	ASP	54	48.207	-8.560	38.631	1.00	24.00	MTGL
ATOM	416	O	ASP	54	47.878	-9.720	38.396	1.00	24.44	MTGL
ATOM	417	N	GLY	55	48.286	-7.630	37.686	1.00	22.74	MTGL
ATOM	418	CA	GLY	55	48.013	-7.959	36.296	1.00	21.74	MTGL
ATOM	419	C	GLY	55	46.566	-8.102	35.854	1.00	20.84	MTGL
ATOM	420	O	GLY	55	46.294	-8.150	34.652	1.00	20.70	MTGL
ATOM	421	N	ASN	56	45.627	-8.173	36.791	1.00	20.23	MTGL
ATOM	422	CA	ASN	56	44.229	-8.320	36.399	1.00	19.77	MTGL
ATOM	423	CB	ASN	56	43.329	-8.530	37.623	1.00	21.09	MTGL
ATOM	424	CG	ASN	56	43.569	-9.876	38.301	1.00	22.81	MTGL
ATOM	425	OD1	ASN	56	43.921	-10.859	37.647	1.00	20.74	MTGL
ATOM	426	ND2	ASN	56	43.359	-9.926	39.611	1.00	22.17	MTGL
ATOM	427	C	ASN	56	43.751	-7.108	35.612	1.00	18.30	MTGL
ATOM	428	O	ASN	56	43.972	-5.968	36.016	1.00	17.82	MTGL
ATOM	429	N	TYR	57	43.108	-7.376	34.480	1.00	16.29	MTGL
ATOM	430	CA	TYR	57	42.570	-6.353	33.591	1.00	15.51	MTGL
ATOM	431	CB	TYR	57	41.680	-5.376	34.368	1.00	15.50	MTGL
ATOM	432	CG	TYR	57	40.756	-6.062	35.348	1.00	16.25	MTGL
ATOM	433	CD1	TYR	57	39.969	-7.150	34.955	1.00	15.93	MTGL
ATOM	434	CE1	TYR	57	39.137	-7.799	35.859	1.00	16.29	MTGL
ATOM	435	CD2	TYR	57	40.681	-5.642	36.671	1.00	16.32	MTGL
ATOM	436	CE2	TYR	57	39.847	-6.288	37.585	1.00	17.00	MTGL
ATOM	437	CZ	TYR	57	39.080	-7.363	37.172	1.00	15.31	MTGL
ATOM	438	OH	TYR	57	38.254	-8.000	38.066	1.00	15.12	MTGL
ATOM	439	C	TYR	57	43.627	-5.579	32.807	1.00	15.53	MTGL
ATOM	440	O	TYR	57	43.315	-4.561	32.189	1.00	14.98	MTGL
ATOM	441	N	ASN	58	44.877	-6.033	32.825	1.00	14.46	MTGL
ATOM	442	CA	ASN	58	45.876	-5.327	32.032	1.00	15.65	MTGL
ATOM	443	CB	ASN	58	47.314	-5.594	32.522	1.00	15.44	MTGL
ATOM	444	CG	ASN	58	47.783	-7.030	32.319	1.00	16.49	MTGL
ATOM	445	OD1	ASN	58	48.869	-7.390	32.779	1.00	18.71	MTGL
ATOM	446	ND2	ASN	58	46.995	-7.844	31.640	1.00	13.70	MTGL
ATOM	447	C	ASN	58	45.660	-5.763	30.582	1.00	16.00	MTGL
ATOM	448	O	ASN	58	44.774	-6.579	30.317	1.00	14.12	MTGL
ATOM	449	N	LEU	59	46.447	-5.235	29.649	1.00	16.39	MTGL
ATOM	450	CA	LEU	59	46.241	-5.564	28.242	1.00	17.31	MTGL
ATOM	451	CB	LEU	59	47.192	-4.751	27.356	1.00	17.07	MTGL
ATOM	452	CG	LEU	59	46.797	-4.743	25.874	1.00	17.21	MTGL
ATOM	453	CD1	LEU	59	45.367	-4.208	25.722	1.00	16.29	MTGL
ATOM	454	CD2	LEU	59	47.769	-3.882	25.085	1.00	16.17	MTGL
ATOM	455	C	LEU	59	46.333	-7.046	27.880	1.00	17.51	MTGL
ATOM	456	O	LEU	59	45.517	-7.537	27.096	1.00	17.20	MTGL
ATOM	457	N	ASP	60	47.317	-7.754	28.432	1.00	17.48	MTGL
ATOM	458	CA	ASP	60	47.460	-9.183	28.152	1.00	18.05	MTGL
ATOM	459	CB	ASP	60	48.700	-9.768	28.837	1.00	20.82	MTGL
ATOM	460	CG	ASP	60	49.995	-9.286	28.217	1.00	23.01	MTGL
ATOM	461	OD1	ASP	60	50.012	-9.009	26.999	1.00	25.11	MTGL
ATOM	462	OD2	ASP	60	51.002	-9.204	28.946	1.00	25.50	MTGL
ATOM	463	C	ASP	60	46.237	-9.943	28.647	1.00	17.40	MTGL

Fig. 1 cont.

ATOM	464	O	ASP	60	45.749	-10.856	27.984	1.00	16.59	MTGL
ATOM	465	N	TYR	61	45.756	-9.573	29.827	1.00	15.42	MTGL
ATOM	466	CA	TYR	61	44.580	-10.215	30.398	1.00	15.67	MTGL
ATOM	467	CB	TYR	61	44.266	-9.581	31.759	1.00	15.24	MTGL
ATOM	468	CG	TYR	61	43.000	-10.071	32.427	1.00	15.21	MTGL
ATOM	469	CD1	TYR	61	41.746	-9.597	32.032	1.00	15.96	MTGL
ATOM	470	CE1	TYR	61	40.578	-10.025	32.670	1.00	14.87	MTGL
ATOM	471	CD2	TYR	61	43.058	-10.990	33.473	1.00	15.54	MTGL
ATOM	472	CE2	TYR	61	41.899	-11.428	34.120	1.00	14.46	MTGL
ATOM	473	CZ	TYR	61	40.662	-10.943	33.714	1.00	16.75	MTGL
ATOM	474	OH	TYR	61	39.511	-11.379	34.345	1.00	14.25	MTGL
ATOM	475	C	TYR	61	43.400	-10.042	29.434	1.00	15.36	MTGL
ATOM	476	O	TYR	61	42.651	-10.987	29.175	1.00	15.76	MTGL
ATOM	477	N	ASN	62	43.257	-8.834	28.897	1.00	14.42	MTGL
ATOM	478	CA	ASN	62	42.174	-8.509	27.971	1.00	16.00	MTGL
ATOM	479	CB	ASN	62	42.072	-6.990	27.811	1.00	15.99	MTGL
ATOM	480	CG	ASN	62	41.231	-6.354	28.895	1.00	18.27	MTGL
ATOM	481	OD1	ASN	62	39.998	-6.396	28.840	1.00	18.23	MTGL
ATOM	482	ND2	ASN	62	41.887	-5.780	29.901	1.00	16.02	MTGL
ATOM	483	C	ASN	62	42.306	-9.172	26.600	1.00	16.04	MTGL
ATOM	484	O	ASN	62	41.306	-9.546	25.990	1.00	15.56	MTGL
ATOM	485	N	ILE	63	43.534	-9.311	26.110	1.00	16.06	MTGL
ATOM	486	CA	ILE	63	43.732	-9.952	24.824	1.00	17.20	MTGL
ATOM	487	CB	ILE	63	45.202	-9.827	24.350	1.00	16.83	MTGL
ATOM	488	CG2	ILE	63	45.481	-10.814	23.214	1.00	17.67	MTGL
ATOM	489	CG1	ILE	63	45.463	-8.391	23.887	1.00	17.41	MTGL
ATOM	490	CD1	ILE	63	46.910	-8.105	23.521	1.00	18.09	MTGL
ATOM	491	C	ILE	63	43.333	-11.420	24.945	1.00	17.68	MTGL
ATOM	492	O	ILE	63	42.664	-11.964	24.068	1.00	18.06	MTGL
ATOM	493	N	ALA	64	43.722	-12.058	26.046	1.00	17.70	MTGL
ATOM	494	CA	ALA	64	43.379	-13.463	26.253	1.00	17.86	MTGL
ATOM	495	CB	ALA	64	44.000	-13.971	27.555	1.00	17.49	MTGL
ATOM	496	C	ALA	64	41.860	-13.703	26.262	1.00	17.48	MTGL
ATOM	497	O	ALA	64	41.370	-14.616	25.599	1.00	17.31	MTGL
ATOM	498	N	ILE	65	41.104	-12.895	27.002	1.00	16.55	MTGL
ATOM	499	CA	ILE	65	39.665	-13.117	27.030	1.00	16.75	MTGL
ATOM	500	CB	ILE	65	38.991	-12.503	28.289	1.00	16.00	MTGL
ATOM	501	CG2	ILE	65	39.574	-13.130	29.536	1.00	16.34	MTGL
ATOM	502	CG1	ILE	65	39.173	-10.984	28.322	1.00	18.05	MTGL
ATOM	503	CD1	ILE	65	38.423	-10.321	29.474	1.00	15.44	MTGL
ATOM	504	C	ILE	65	38.989	-12.598	25.760	1.00	16.71	MTGL
ATOM	505	O	ILE	65	37.938	-13.101	25.368	1.00	16.21	MTGL
ATOM	506	N	ALA	66	39.598	-11.609	25.107	1.00	16.15	MTGL
ATOM	507	CA	ALA	66	39.036	-11.087	23.866	1.00	16.93	MTGL
ATOM	508	CB	ALA	66	39.806	-9.854	23.404	1.00	15.85	MTGL
ATOM	509	C	ALA	66	39.106	-12.185	22.802	1.00	17.72	MTGL
ATOM	510	O	ALA	66	38.189	-12.330	21.989	1.00	16.94	MTGL
ATOM	511	N	LYS	67	40.188	-12.965	22.817	1.00	18.09	MTGL
ATOM	512	CA	LYS	67	40.340	-14.059	21.856	1.00	19.65	MTGL
ATOM	513	CB	LYS	67	41.700	-14.748	22.010	1.00	21.06	MTGL
ATOM	514	CG	LYS	67	42.892	-13.953	21.484	1.00	23.60	MTGL
ATOM	515	CD	LYS	67	44.159	-14.795	21.550	1.00	26.88	MTGL
ATOM	516	CE	LYS	67	45.365	-14.050	21.000	1.00	29.59	MTGL
ATOM	517	NZ	LYS	67	45.208	-13.714	19.551	1.00	32.62	MTGL
ATOM	518	C	LYS	67	39.229	-15.085	22.070	1.00	19.44	MTGL
ATOM	519	O	LYS	67	38.667	-15.616	21.109	1.00	19.17	MTGL
ATOM	520	N	ARG	68	38.921	-15.365	23.335	1.00	18.94	MTGL
ATOM	521	CA	ARG	68	37.866	-16.317	23.672	1.00	17.61	MTGL

Fig. 1 cont.

ATOM	522	CB	ARG	68	37.834	-16.567	25.181	1.00	16.99	MTGL
ATOM	523	CG	ARG	68	38.950	-17.488	25.679	1.00	18.79	MTGL
ATOM	524	CD	ARG	68	39.015	-17.515	27.199	1.00	17.89	MTGL
ATOM	525	NE	ARG	68	37.742	-17.892	27.809	1.00	18.08	MTGL
ATOM	526	CZ	ARG	68	37.555	-18.020	29.120	1.00	18.59	MTGL
ATOM	527	NH1	ARG	68	38.561	-17.798	29.961	1.00	18.68	MTGL
ATOM	528	NH2	ARG	68	36.371	-18.381	29.595	1.00	16.96	MTGL
ATOM	529	C	ARG	68	36.511	-15.799	23.209	1.00	17.25	MTGL
ATOM	530	O	ARG	68	35.679	-16.563	22.711	1.00	15.99	MTGL
ATOM	531	N	ALA	69	36.285	-14.503	23.395	1.00	16.95	MTGL
ATOM	532	CA	ALA	69	35.030	-13.886	22.982	1.00	18.21	MTGL
ATOM	533	CB	ALA	69	35.001	-12.411	23.393	1.00	18.02	MTGL
ATOM	534	C	ALA	69	34.907	-14.012	21.465	1.00	18.17	MTGL
ATOM	535	O	ALA	69	33.867	-14.407	20.945	1.00	16.83	MTGL
ATOM	536	N	LYS	70	35.984	-13.675	20.764	1.00	18.35	MTGL
ATOM	537	CA	LYS	70	36.011	-13.764	19.312	1.00	19.84	MTGL
ATOM	538	CB	LYS	70	37.402	-13.390	18.795	1.00	19.40	MTGL
ATOM	539	CG	LYS	70	37.548	-13.420	17.284	1.00	21.56	MTGL
ATOM	540	CD	LYS	70	38.992	-13.123	16.892	1.00	22.53	MTGL
ATOM	541	CE	LYS	70	39.180	-13.123	15.383	1.00	23.66	MTGL
ATOM	542	NZ	LYS	70	40.592	-12.852	15.015	1.00	21.95	MTGL
ATOM	543	C	LYS	70	35.648	-15.186	18.861	1.00	20.29	MTGL
ATOM	544	O	LYS	70	34.842	-15.365	17.948	1.00	19.93	MTGL
ATOM	545	N	ALA	71	36.235	-16.190	19.511	1.00	19.37	MTGL
ATOM	546	CA	ALA	71	35.970	-17.585	19.159	1.00	20.95	MTGL
ATOM	547	CB	ALA	71	36.896	-18.514	19.941	1.00	20.90	MTGL
ATOM	548	C	ALA	71	34.514	-17.975	19.405	1.00	21.38	MTGL
ATOM	549	O	ALA	71	34.010	-18.929	18.810	1.00	22.34	MTGL
ATOM	550	N	ALA	72	33.839	-17.244	20.282	1.00	20.63	MTGL
ATOM	551	CA	ALA	72	32.439	-17.529	20.574	1.00	20.92	MTGL
ATOM	552	CB	ALA	72	32.149	-17.284	22.050	1.00	20.20	MTGL
ATOM	553	C	ALA	72	31.523	-16.659	19.710	1.00	20.68	MTGL
ATOM	554	O	ALA	72	30.305	-16.644	19.899	1.00	20.23	MTGL
ATOM	555	N	GLY	73	32.116	-15.934	18.768	1.00	20.42	MTGL
ATOM	556	CA	GLY	73	31.339	-15.077	17.889	1.00	20.87	MTGL
ATOM	557	C	GLY	73	30.874	-13.774	18.523	1.00	21.42	MTGL
ATOM	558	O	GLY	73	29.946	-13.133	18.027	1.00	21.96	MTGL
ATOM	559	N	LEU	74	31.522	-13.373	19.612	1.00	20.70	MTGL
ATOM	560	CA	LEU	74	31.160	-12.146	20.315	1.00	19.98	MTGL
ATOM	561	CB	LEU	74	31.221	-12.372	21.830	1.00	19.61	MTGL
ATOM	562	CG	LEU	74	30.359	-13.491	22.420	1.00	19.97	MTGL
ATOM	563	CD1	LEU	74	30.692	-13.659	23.898	1.00	19.32	MTGL
ATOM	564	CD2	LEU	74	28.881	-13.162	22.232	1.00	18.79	MTGL
ATOM	565	C	LEU	74	32.071	-10.978	19.960	1.00	19.91	MTGL
ATOM	566	O	LEU	74	33.292	-11.133	19.882	1.00	20.26	MTGL
ATOM	567	N	GLY	75	31.473	-9.809	19.740	1.00	19.06	MTGL
ATOM	568	CA	GLY	75	32.261	-8.627	19.438	1.00	18.36	MTGL
ATOM	569	C	GLY	75	32.856	-8.106	20.738	1.00	17.17	MTGL
ATOM	570	O	GLY	75	32.380	-8.457	21.821	1.00	16.83	MTGL
ATOM	571	N	VAL	76	33.885	-7.271	20.648	1.00	16.99	MTGL
ATOM	572	CA	VAL	76	34.522	-6.748	21.853	1.00	17.15	MTGL
ATOM	573	CB	VAL	76	35.996	-7.202	21.947	1.00	18.28	MTGL
ATOM	574	CG1	VAL	76	36.626	-6.682	23.238	1.00	17.92	MTGL
ATOM	575	CG2	VAL	76	36.074	-8.726	21.896	1.00	17.32	MTGL
ATOM	576	C	VAL	76	34.476	-5.231	21.984	1.00	17.67	MTGL
ATOM	577	O	VAL	76	34.770	-4.491	21.039	1.00	18.33	MTGL
ATOM	578	N	TYR	77	34.108	-4.785	23.177	1.00	16.77	MTGL
ATOM	579	CA	TYR	77	34.013	-3.366	23.517	1.00	16.63	MTGL

Fig. 1 cont.

ATOM	580	CB	TYR	77	32.608	-3.102	24.097	1.00	15.27	MTGL
ATOM	581	CG	TYR	77	32.335	-1.799	24.840	1.00	15.55	MTGL
ATOM	582	CD1	TYR	77	33.343	-0.886	25.149	1.00	15.39	MTGL
ATOM	583	CE1	TYR	77	33.068	0.257	25.925	1.00	16.48	MTGL
ATOM	584	CD2	TYR	77	31.046	-1.532	25.312	1.00	16.02	MTGL
ATOM	585	CE2	TYR	77	30.766	-0.414	26.075	1.00	15.87	MTGL
ATOM	586	CZ	TYR	77	31.772	0.475	26.386	1.00	16.20	MTGL
ATOM	587	OH	TYR	77	31.471	1.541	27.200	1.00	15.93	MTGL
ATOM	588	C	TYR	77	35.114	-3.128	24.548	1.00	16.00	MTGL
ATOM	589	O	TYR	77	35.026	-3.604	25.683	1.00	16.53	MTGL
ATOM	590	N	ILE	78	36.163	-2.419	24.142	1.00	16.29	MTGL
ATOM	591	CA	ILE	78	37.280	-2.121	25.044	1.00	17.09	MTGL
ATOM	592	CB	ILE	78	38.611	-2.008	24.261	1.00	17.14	MTGL
ATOM	593	CG2	ILE	78	39.695	-1.387	25.140	1.00	16.04	MTGL
ATOM	594	CG1	ILE	78	39.049	-3.394	23.777	1.00	16.84	MTGL
ATOM	595	CD1	ILE	78	39.424	-4.364	24.905	1.00	17.38	MTGL
ATOM	596	C	ILE	78	37.031	-0.818	25.818	1.00	17.27	MTGL
ATOM	597	O	ILE	78	36.834	0.241	25.227	1.00	17.22	MTGL
ATOM	598	N	ASP	79	37.046	-0.912	27.142	1.00	16.43	MTGL
ATOM	599	CA	ASP	79	36.817	0.234	28.009	1.00	16.05	MTGL
ATOM	600	CB	ASP	79	35.738	-0.127	29.039	1.00	17.34	MTGL
ATOM	601	CG	ASP	79	35.577	0.920	30.133	1.00	19.18	MTGL
ATOM	602	OD1	ASP	79	36.023	2.072	29.952	1.00	19.88	MTGL
ATOM	603	OD2	ASP	79	34.986	0.583	31.181	1.00	20.19	MTGL
ATOM	604	C	ASP	79	38.113	0.657	28.699	1.00	16.01	MTGL
ATOM	605	O	ASP	79	38.479	0.102	29.732	1.00	15.54	MTGL
ATOM	606	N	PHE	80	38.810	1.626	28.105	1.00	15.57	MTGL
ATOM	607	CA	PHE	80	40.065	2.138	28.654	1.00	15.49	MTGL
ATOM	608	CB	PHE	80	40.811	3.005	27.627	1.00	14.72	MTGL
ATOM	609	CG	PHE	80	41.533	2.230	26.566	1.00	14.70	MTGL
ATOM	610	CD1	PHE	80	42.548	1.343	26.899	1.00	14.82	MTGL
ATOM	611	CD2	PHE	80	41.224	2.419	25.222	1.00	15.80	MTGL
ATOM	612	CE1	PHE	80	43.251	0.649	25.912	1.00	15.54	MTGL
ATOM	613	CE2	PHE	80	41.921	1.730	24.221	1.00	16.06	MTGL
ATOM	614	CZ	PHE	80	42.938	0.844	24.568	1.00	14.92	MTGL
ATOM	615	C	PHE	80	39.800	3.009	29.869	1.00	16.16	MTGL
ATOM	616	O	PHE	80	39.126	4.036	29.759	1.00	15.79	MTGL
ATOM	617	N	HIS	81	40.328	2.617	31.025	1.00	15.76	MTGL
ATOM	618	CA	HIS	81	40.140	3.419	32.234	1.00	15.04	MTGL
ATOM	619	CB	HIS	81	40.130	2.533	33.485	1.00	13.87	MTGL
ATOM	620	CG	HIS	81	38.846	1.790	33.686	1.00	14.70	MTGL
ATOM	621	CD2	HIS	81	37.971	1.263	32.795	1.00	13.78	MTGL
ATOM	622	ND1	HIS	81	38.312	1.554	34.933	1.00	13.45	MTGL
ATOM	623	CE1	HIS	81	37.161	0.918	34.804	1.00	15.90	MTGL
ATOM	624	NE2	HIS	81	36.931	0.730	33.516	1.00	14.78	MTGL
ATOM	625	C	HIS	81	41.244	4.466	32.357	1.00	15.46	MTGL
ATOM	626	O	HIS	81	41.113	5.439	33.102	1.00	14.94	MTGL
ATOM	627	N	TYR	82	42.326	4.273	31.609	1.00	15.09	MTGL
ATOM	628	CA	TYR	82	43.452	5.199	31.663	1.00	16.48	MTGL
ATOM	629	CB	TYR	82	43.092	6.520	30.974	1.00	15.74	MTGL
ATOM	630	CG	TYR	82	42.849	6.384	29.476	1.00	15.85	MTGL
ATOM	631	CD1	TYR	82	43.702	5.615	28.680	1.00	15.30	MTGL
ATOM	632	CE1	TYR	82	43.527	5.530	27.307	1.00	16.13	MTGL
ATOM	633	CD2	TYR	82	41.801	7.062	28.852	1.00	15.60	MTGL
ATOM	634	CE2	TYR	82	41.613	6.985	27.465	1.00	16.11	MTGL
ATOM	635	CZ	TYR	82	42.482	6.218	26.705	1.00	17.06	MTGL
ATOM	636	OH	TYR	82	42.331	6.148	25.345	1.00	18.86	MTGL
ATOM	637	C	TYR	82	43.866	5.437	33.122	1.00	17.11	MTGL

Fig. 1 cont.

ATOM	638	O	TYR	82	43.987	6.573	33.593	1.00	17.37	MTGL
ATOM	639	N	SER	83	44.077	4.329	33.822	1.00	17.17	MTGL
ATOM	640	CA	SER	83	44.482	4.328	35.223	1.00	17.21	MTGL
ATOM	641	CB	SER	83	43.288	4.679	36.115	1.00	16.41	MTGL
ATOM	642	OG	SER	83	43.639	4.651	37.487	1.00	16.64	MTGL
ATOM	643	C	SER	83	44.948	2.904	35.518	1.00	17.88	MTGL
ATOM	644	O	SER	83	44.689	1.993	34.732	1.00	17.59	MTGL
ATOM	645	N	ASP	84	45.646	2.706	36.630	1.00	18.00	MTGL
ATOM	646	CA	ASP	84	46.106	1.369	36.984	1.00	17.91	MTGL
ATOM	647	CB	ASP	84	47.378	1.415	37.840	1.00	18.31	MTGL
ATOM	648	CG	ASP	84	48.570	1.993	37.105	1.00	19.40	MTGL
ATOM	649	OD1	ASP	84	48.732	1.724	35.897	1.00	18.50	MTGL
ATOM	650	OD2	ASP	84	49.366	2.705	37.750	1.00	20.89	MTGL
ATOM	651	C	ASP	84	45.017	0.665	37.785	1.00	17.16	MTGL
ATOM	652	O	ASP	84	45.118	-0.525	38.061	1.00	16.64	MTGL
ATOM	653	N	THR	85	43.978	1.406	38.152	1.00	16.98	MTGL
ATOM	654	CA	THR	85	42.889	0.837	38.943	1.00	17.09	MTGL
ATOM	655	CB	THR	85	43.169	1.056	40.456	1.00	17.53	MTGL
ATOM	656	OG1	THR	85	42.211	0.337	41.239	1.00	20.04	MTGL
ATOM	657	CG2	THR	85	43.107	2.549	40.805	1.00	16.84	MTGL
ATOM	658	C	THR	85	41.543	1.460	38.546	1.00	16.53	MTGL
ATOM	659	O	THR	85	41.481	2.245	37.598	1.00	16.58	MTGL
ATOM	660	N	TRP	86	40.477	1.100	39.264	1.00	15.91	MTGL
ATOM	661	CA	TRP	86	39.130	1.597	38.982	1.00	16.71	MTGL
ATOM	662	CB	TRP	86	38.166	1.291	40.143	1.00	15.33	MTGL
ATOM	663	CG	TRP	86	38.079	-0.151	40.525	1.00	17.03	MTGL
ATOM	664	CD2	TRP	86	37.311	-1.165	39.871	1.00	16.85	MTGL
ATOM	665	CE2	TRP	86	37.548	-2.378	40.560	1.00	17.49	MTGL
ATOM	666	CE3	TRP	86	36.448	-1.170	38.767	1.00	16.06	MTGL
ATOM	667	CD1	TRP	86	38.731	-0.768	41.555	1.00	16.85	MTGL
ATOM	668	NE1	TRP	86	38.417	-2.104	41.583	1.00	17.28	MTGL
ATOM	669	CZ2	TRP	86	36.951	-3.588	40.180	1.00	16.23	MTGL
ATOM	670	CZ3	TRP	86	35.853	-2.373	38.388	1.00	17.14	MTGL
ATOM	671	CH2	TRP	86	36.110	-3.566	39.095	1.00	17.46	MTGL
ATOM	672	C	TRP	86	39.044	3.093	38.703	1.00	16.71	MTGL
ATOM	673	O	TRP	86	39.500	3.911	39.500	1.00	16.21	MTGL
ATOM	674	N	ALA	87	38.440	3.443	37.574	1.00	16.31	MTGL
ATOM	675	CA	ALA	87	38.249	4.845	37.223	1.00	17.57	MTGL
ATOM	676	CB	ALA	87	38.760	5.124	35.809	1.00	16.32	MTGL
ATOM	677	C	ALA	87	36.753	5.119	37.297	1.00	18.11	MTGL
ATOM	678	O	ALA	87	35.965	4.409	36.677	1.00	18.07	MTGL
ATOM	679	N	ASP	88	36.368	6.125	38.077	1.00	18.47	MTGL
ATOM	680	CA	ASP	88	34.965	6.512	38.213	1.00	18.85	MTGL
ATOM	681	CB	ASP	88	34.287	5.730	39.354	1.00	18.63	MTGL
ATOM	682	CG	ASP	88	35.047	5.816	40.661	1.00	19.12	MTGL
ATOM	683	OD1	ASP	88	35.352	6.940	41.109	1.00	18.34	MTGL
ATOM	684	OD2	ASP	88	35.331	4.749	41.248	1.00	19.72	MTGL
ATOM	685	C	ASP	88	34.932	8.021	38.460	1.00	18.13	MTGL
ATOM	686	O	ASP	88	35.980	8.656	38.505	1.00	17.65	MTGL
ATOM	687	N	PRO	89	33.737	8.616	38.615	1.00	18.93	MTGL
ATOM	688	CD	PRO	89	32.382	8.046	38.501	1.00	19.94	MTGL
ATOM	689	CA	PRO	89	33.672	10.066	38.842	1.00	19.49	MTGL
ATOM	690	CB	PRO	89	32.174	10.327	39.000	1.00	19.80	MTGL
ATOM	691	CG	PRO	89	31.555	9.263	38.125	1.00	19.69	MTGL
ATOM	692	C	PRO	89	34.476	10.600	40.025	1.00	19.90	MTGL
ATOM	693	O	PRO	89	34.833	11.778	40.048	1.00	20.62	MTGL
ATOM	694	N	ALA	90	34.760	9.743	40.999	1.00	18.70	MTGL
ATOM	695	CA	ALA	90	35.519	10.164	42.175	1.00	19.35	MTGL

Fig. 1 cont.

ATOM	696	CB	ALA	90	34.818	9.685	43.457	1.00	17.48	MTGL
ATOM	697	C	ALA	90	36.964	9.674	42.162	1.00	18.63	MTGL
ATOM	698	O	ALA	90	37.730	9.988	43.071	1.00	19.58	MTGL
ATOM	699	N	HIS	91	37.333	8.901	41.145	1.00	17.84	MTGL
ATOM	700	CA	HIS	91	38.698	8.391	41.039	1.00	17.68	MTGL
ATOM	701	CB	HIS	91	38.833	7.000	41.679	1.00	18.34	MTGL
ATOM	702	CG	HIS	91	38.298	6.910	43.072	1.00	20.31	MTGL
ATOM	703	CD2	HIS	91	38.927	6.936	44.272	1.00	19.87	MTGL
ATOM	704	ND1	HIS	91	36.953	6.784	43.344	1.00	18.50	MTGL
ATOM	705	CE1	HIS	91	36.775	6.736	44.653	1.00	20.43	MTGL
ATOM	706	NE2	HIS	91	37.956	6.826	45.238	1.00	21.64	MTGL
ATOM	707	C	HIS	91	39.177	8.280	39.597	1.00	16.55	MTGL
ATOM	708	O	HIS	91	38.661	7.478	38.823	1.00	16.39	MTGL
ATOM	709	N	GLN	92	40.169	9.087	39.246	1.00	15.52	MTGL
ATOM	710	CA	GLN	92	40.760	9.064	37.911	1.00	15.68	MTGL
ATOM	711	CB	GLN	92	40.281	10.255	37.072	1.00	14.49	MTGL
ATOM	712	CG	GLN	92	38.786	10.229	36.702	1.00	13.93	MTGL
ATOM	713	CD	GLN	92	38.413	9.127	35.699	1.00	14.84	MTGL
ATOM	714	OE1	GLN	92	39.173	8.814	34.779	1.00	15.41	MTGL
ATOM	715	NE2	GLN	92	37.221	8.559	35.861	1.00	14.23	MTGL
ATOM	716	C	GLN	92	42.254	9.166	38.190	1.00	15.81	MTGL
ATOM	717	O	GLN	92	42.925	10.108	37.782	1.00	16.26	MTGL
ATOM	718	N	THR	93	42.759	8.169	38.902	1.00	16.47	MTGL
ATOM	719	CA	THR	93	44.156	8.136	39.302	1.00	17.33	MTGL
ATOM	720	CB	THR	93	44.387	7.062	40.364	1.00	17.41	MTGL
ATOM	721	OG1	THR	93	43.433	7.239	41.417	1.00	19.90	MTGL
ATOM	722	CG2	THR	93	45.800	7.177	40.944	1.00	19.68	MTGL
ATOM	723	C	THR	93	45.136	7.925	38.165	1.00	17.55	MTGL
ATOM	724	O	THR	93	45.035	6.973	37.390	1.00	17.01	MTGL
ATOM	725	N	MET	94	46.093	8.839	38.089	1.00	17.63	MTGL
ATOM	726	CA	MET	94	47.131	8.820	37.079	1.00	18.68	MTGL
ATOM	727	CB	MET	94	48.144	9.926	37.383	1.00	21.10	MTGL
ATOM	728	CG	MET	94	49.195	10.133	36.315	1.00	23.55	MTGL
ATOM	729	SD	MET	94	48.474	10.956	34.894	1.00	27.41	MTGL
ATOM	730	CE	MET	94	48.342	12.657	35.533	1.00	25.13	MTGL
ATOM	731	C	MET	94	47.854	7.476	37.064	1.00	18.43	MTGL
ATOM	732	O	MET	94	48.179	6.925	38.113	1.00	18.13	MTGL
ATOM	733	N	PRO	95	48.088	6.914	35.871	1.00	17.41	MTGL
ATOM	734	CD	PRO	95	47.534	7.255	34.551	1.00	16.67	MTGL
ATOM	735	CA	PRO	95	48.797	5.631	35.834	1.00	17.83	MTGL
ATOM	736	CB	PRO	95	48.814	5.287	34.347	1.00	17.25	MTGL
ATOM	737	CG	PRO	95	47.544	5.914	33.843	1.00	17.35	MTGL
ATOM	738	C	PRO	95	50.202	5.903	36.371	1.00	18.71	MTGL
ATOM	739	O	PRO	95	50.784	6.952	36.084	1.00	17.30	MTGL
ATOM	740	N	ALA	96	50.746	4.978	37.152	1.00	18.59	MTGL
ATOM	741	CA	ALA	96	52.082	5.177	37.705	1.00	20.01	MTGL
ATOM	742	CB	ALA	96	52.470	3.983	38.587	1.00	19.66	MTGL
ATOM	743	C	ALA	96	53.095	5.357	36.577	1.00	20.37	MTGL
ATOM	744	O	ALA	96	53.081	4.617	35.595	1.00	20.80	MTGL
ATOM	745	N	GLY	97	53.959	6.356	36.710	1.00	20.53	MTGL
ATOM	746	CA	GLY	97	54.967	6.595	35.693	1.00	20.43	MTGL
ATOM	747	C	GLY	97	54.611	7.644	34.654	1.00	20.83	MTGL
ATOM	748	O	GLY	97	55.491	8.144	33.959	1.00	22.30	MTGL
ATOM	749	N	TRP	98	53.332	7.982	34.537	1.00	20.23	MTGL
ATOM	750	CA	TRP	98	52.902	8.978	33.561	1.00	19.86	MTGL
ATOM	751	CB	TRP	98	51.415	8.795	33.249	1.00	18.17	MTGL
ATOM	752	CG	TRP	98	51.106	7.576	32.421	1.00	17.34	MTGL
ATOM	753	CD2	TRP	98	49.987	7.397	31.543	1.00	16.19	MTGL

Fig. 1 cont.

ATOM	754	CE2	TRP	98	50.082	6.093	31.006	1.00	16.95	MTGL
ATOM	755	CE3	TRP	98	48.914	8.213	31.156	1.00	15.48	MTGL
ATOM	756	CD1	TRP	98	51.810	6.406	32.385	1.00	18.21	MTGL
ATOM	757	NE1	TRP	98	51.202	5.511	31.538	1.00	17.45	MTGL
ATOM	758	CZ2	TRP	98	49.140	5.580	30.103	1.00	17.12	MTGL
ATOM	759	CZ3	TRP	98	47.974	7.704	30.257	1.00	15.71	MTGL
ATOM	760	CH2	TRP	98	48.098	6.399	29.740	1.00	16.54	MTGL
ATOM	761	C	TRP	98	53.156	10.401	34.056	1.00	20.28	MTGL
ATOM	762	O	TRP	98	52.958	10.706	35.230	1.00	19.92	MTGL
ATOM	763	N	PRO	99	53.593	11.295	33.156	1.00	21.71	MTGL
ATOM	764	CD	PRO	99	53.852	11.048	31.725	1.00	22.15	MTGL
ATOM	765	CA	PRO	99	53.875	12.693	33.505	1.00	22.69	MTGL
ATOM	766	CB	PRO	99	54.610	13.205	32.269	1.00	22.58	MTGL
ATOM	767	CG	PRO	99	53.938	12.454	31.163	1.00	22.80	MTGL
ATOM	768	C	PRO	99	52.598	13.483	33.797	1.00	23.10	MTGL
ATOM	769	O	PRO	99	51.530	13.156	33.277	1.00	23.44	MTGL
ATOM	770	N	SER	100	52.716	14.522	34.621	1.00	22.96	MTGL
ATOM	771	CA	SER	100	51.572	15.353	34.995	1.00	23.06	MTGL
ATOM	772	CB	SER	100	51.714	15.831	36.445	1.00	24.32	MTGL
ATOM	773	OG	SER	100	51.658	14.746	37.353	1.00	26.38	MTGL
ATOM	774	C	SER	100	51.332	16.574	34.115	1.00	22.44	MTGL
ATOM	775	O	SER	100	50.202	17.051	34.032	1.00	22.25	MTGL
ATOM	776	N	ASP	101	52.379	17.098	33.480	1.00	22.38	MTGL
ATOM	777	CA	ASP	101	52.208	18.283	32.639	1.00	23.28	MTGL
ATOM	778	CB	ASP	101	53.565	18.890	32.254	1.00	24.51	MTGL
ATOM	779	CG	ASP	101	54.382	17.986	31.352	1.00	25.84	MTGL
ATOM	780	OD1	ASP	101	54.886	16.954	31.842	1.00	26.46	MTGL
ATOM	781	OD2	ASP	101	54.515	18.310	30.152	1.00	25.84	MTGL
ATOM	782	C	ASP	101	51.411	17.933	31.386	1.00	22.28	MTGL
ATOM	783	O	ASP	101	51.667	16.915	30.743	1.00	21.59	MTGL
ATOM	784	N	ILE	102	50.452	18.787	31.042	1.00	21.77	MTGL
ATOM	785	CA	ILE	102	49.584	18.548	29.890	1.00	21.42	MTGL
ATOM	786	CB	ILE	102	48.623	19.738	29.663	1.00	20.48	MTGL
ATOM	787	CG2	ILE	102	49.411	20.998	29.313	1.00	20.99	MTGL
ATOM	788	CG1	ILE	102	47.617	19.392	28.560	1.00	21.44	MTGL
ATOM	789	CD1	ILE	102	46.730	18.200	28.879	1.00	19.62	MTGL
ATOM	790	C	ILE	102	50.281	18.196	28.573	1.00	21.71	MTGL
ATOM	791	O	ILE	102	49.861	17.258	27.896	1.00	20.84	MTGL
ATOM	792	N	ASP	103	51.336	18.918	28.201	1.00	21.01	MTGL
ATOM	793	CA	ASP	103	52.012	18.608	26.945	1.00	22.44	MTGL
ATOM	794	CB	ASP	103	53.219	19.523	26.716	1.00	24.91	MTGL
ATOM	795	CG	ASP	103	52.821	20.942	26.370	1.00	27.06	MTGL
ATOM	796	OD1	ASP	103	51.633	21.178	26.070	1.00	27.99	MTGL
ATOM	797	OD2	ASP	103	53.703	21.823	26.385	1.00	28.69	MTGL
ATOM	798	C	ASP	103	52.478	17.160	26.886	1.00	22.61	MTGL
ATOM	799	O	ASP	103	52.144	16.435	25.948	1.00	23.39	MTGL
ATOM	800	N	ASN	104	53.244	16.734	27.885	1.00	21.79	MTGL
ATOM	801	CA	ASN	104	53.751	15.366	27.898	1.00	22.22	MTGL
ATOM	802	CB	ASN	104	54.912	15.244	28.884	1.00	23.92	MTGL
ATOM	803	CG	ASN	104	56.149	15.977	28.406	1.00	26.18	MTGL
ATOM	804	OD1	ASN	104	56.715	15.643	27.364	1.00	26.60	MTGL
ATOM	805	ND2	ASN	104	56.570	16.989	29.157	1.00	26.07	MTGL
ATOM	806	C	ASN	104	52.699	14.311	28.191	1.00	21.08	MTGL
ATOM	807	O	ASN	104	52.774	13.210	27.655	1.00	20.89	MTGL
ATOM	808	N	LEU	105	51.722	14.642	29.032	1.00	20.18	MTGL
ATOM	809	CA	LEU	105	50.663	13.693	29.361	1.00	19.91	MTGL
ATOM	810	CB	LEU	105	49.743	14.249	30.452	1.00	17.16	MTGL
ATOM	811	CG	LEU	105	48.568	13.339	30.842	1.00	18.64	MTGL

Fig. 1 cont.

ATOM	812	CD1	LEU	105	49.089	12.019	31.413	1.00	15.72	MTGL
ATOM	813	CD2	LEU	105	47.690	14.040	31.860	1.00	17.06	MTGL
ATOM	814	C	LEU	105	49.841	13.392	28.109	1.00	20.55	MTGL
ATOM	815	O	LEU	105	49.506	12.237	27.839	1.00	20.48	MTGL
ATOM	816	N	SER	106	49.521	14.435	27.346	1.00	20.24	MTGL
ATOM	817	CA	SER	106	48.746	14.264	26.124	1.00	21.47	MTGL
ATOM	818	CB	SER	106	48.514	15.610	25.437	1.00	22.23	MTGL
ATOM	819	OG	SER	106	47.695	16.447	26.235	1.00	27.30	MTGL
ATOM	820	C	SER	106	49.484	13.338	25.173	1.00	20.88	MTGL
ATOM	821	O	SER	106	48.884	12.487	24.527	1.00	19.42	MTGL
ATOM	822	N	TRP	107	50.795	13.513	25.096	1.00	22.85	MTGL
ATOM	823	CA	TRP	107	51.623	12.696	24.223	1.00	24.06	MTGL
ATOM	824	CB	TRP	107	53.033	13.282	24.164	1.00	27.94	MTGL
ATOM	825	CG	TRP	107	53.780	12.934	22.924	1.00	32.46	MTGL
ATOM	826	CD2	TRP	107	55.136	13.276	22.621	1.00	35.03	MTGL
ATOM	827	CE2	TRP	107	55.414	12.776	21.328	1.00	36.06	MTGL
ATOM	828	CE3	TRP	107	56.141	13.971	23.309	1.00	36.31	MTGL
ATOM	829	CD1	TRP	107	53.303	12.249	21.839	1.00	33.32	MTGL
ATOM	830	NE1	TRP	107	54.280	12.148	20.877	1.00	35.87	MTGL
ATOM	831	CZ2	TRP	107	56.662	12.934	20.715	1.00	36.87	MTGL
ATOM	832	CZ3	TRP	107	57.381	14.130	22.698	1.00	37.64	MTGL
ATOM	833	CH2	TRP	107	57.627	13.617	21.410	1.00	37.50	MTGL
ATOM	834	C	TRP	107	51.674	11.250	24.725	1.00	23.66	MTGL
ATOM	835	O	TRP	107	51.632	10.306	23.929	1.00	22.42	MTGL
ATOM	836	N	LYS	108	51.754	11.085	26.045	1.00	21.87	MTGL
ATOM	837	CA	LYS	108	51.810	9.758	26.654	1.00	21.77	MTGL
ATOM	838	CB	LYS	108	52.012	9.870	28.167	1.00	22.68	MTGL
ATOM	839	CG	LYS	108	52.928	8.818	28.787	1.00	25.44	MTGL
ATOM	840	CD	LYS	108	52.756	7.420	28.208	1.00	25.37	MTGL
ATOM	841	CE	LYS	108	53.657	6.436	28.948	1.00	26.82	MTGL
ATOM	842	NZ	LYS	108	53.912	5.168	28.202	1.00	25.16	MTGL
ATOM	843	C	LYS	108	50.502	9.016	26.400	1.00	21.11	MTGL
ATOM	844	O	LYS	108	50.499	7.825	26.082	1.00	20.02	MTGL
ATOM	845	N	LEU	109	49.394	9.733	26.569	1.00	20.01	MTGL
ATOM	846	CA	LEU	109	48.069	9.165	26.378	1.00	19.28	MTGL
ATOM	847	CB	LEU	109	46.998	10.210	26.701	1.00	17.83	MTGL
ATOM	848	CG	LEU	109	45.541	9.782	26.544	1.00	18.16	MTGL
ATOM	849	CD1	LEU	109	45.278	8.500	27.331	1.00	16.64	MTGL
ATOM	850	CD2	LEU	109	44.639	10.912	27.023	1.00	17.12	MTGL
ATOM	851	C	LEU	109	47.922	8.689	24.941	1.00	19.15	MTGL
ATOM	852	O	LEU	109	47.356	7.630	24.681	1.00	17.95	MTGL
ATOM	853	N	TYR	110	48.439	9.485	24.013	1.00	19.31	MTGL
ATOM	854	CA	TYR	110	48.390	9.141	22.602	1.00	20.23	MTGL
ATOM	855	CB	TYR	110	48.928	10.308	21.765	1.00	20.77	MTGL
ATOM	856	CG	TYR	110	49.112	9.988	20.301	1.00	22.28	MTGL
ATOM	857	CD1	TYR	110	50.324	9.483	19.827	1.00	22.42	MTGL
ATOM	858	CE1	TYR	110	50.500	9.174	18.478	1.00	23.01	MTGL
ATOM	859	CD2	TYR	110	48.072	10.179	19.388	1.00	21.90	MTGL
ATOM	860	CE2	TYR	110	48.236	9.873	18.033	1.00	22.98	MTGL
ATOM	861	CZ	TYR	110	49.453	9.373	17.589	1.00	22.70	MTGL
ATOM	862	OH	TYR	110	49.628	9.075	16.261	1.00	22.60	MTGL
ATOM	863	C	TYR	110	49.209	7.873	22.351	1.00	20.36	MTGL
ATOM	864	O	TYR	110	48.713	6.915	21.753	1.00	19.75	MTGL
ATOM	865	N	ASN	111	50.453	7.864	22.826	1.00	19.95	MTGL
ATOM	866	CA	ASN	111	51.333	6.712	22.650	1.00	20.79	MTGL
ATOM	867	CB	ASN	111	52.691	6.944	23.316	1.00	22.26	MTGL
ATOM	868	CG	ASN	111	53.496	8.030	22.642	1.00	26.38	MTGL
ATOM	869	OD1	ASN	111	53.175	8.463	21.534	1.00	25.33	MTGL

Fig. 1 cont.

ATOM	870	ND2	ASN	111	54.556	8.463	23.317	1.00	29.11	MTGL
ATOM	871	C	ASN	111	50.736	5.445	23.234	1.00	20.44	MTGL
ATOM	872	O	ASN	111	50.764	4.391	22.605	1.00	20.22	MTGL
ATOM	873	N	TYR	112	50.218	5.551	24.452	1.00	19.27	MTGL
ATOM	874	CA	TYR	112	49.622	4.406	25.123	1.00	18.94	MTGL
ATOM	875	CB	TYR	112	49.131	4.801	26.517	1.00	16.74	MTGL
ATOM	876	CG	TYR	112	48.211	3.770	27.137	1.00	17.22	MTGL
ATOM	877	CD1	TYR	112	48.723	2.632	27.766	1.00	15.42	MTGL
ATOM	878	CE1	TYR	112	47.876	1.671	28.311	1.00	17.32	MTGL
ATOM	879	CD2	TYR	112	46.827	3.916	27.065	1.00	15.87	MTGL
ATOM	880	CE2	TYR	112	45.971	2.960	27.604	1.00	17.72	MTGL
ATOM	881	CZ	TYR	112	46.500	1.844	28.225	1.00	16.39	MTGL
ATOM	882	OH	TYR	112	45.653	0.907	28.766	1.00	18.06	MTGL
ATOM	883	C	TYR	112	48.449	3.832	24.330	1.00	18.50	MTGL
ATOM	884	O	TYR	112	48.358	2.622	24.129	1.00	17.86	MTGL
ATOM	885	N	THR	113	47.545	4.709	23.903	1.00	18.56	MTGL
ATOM	886	CA	THR	113	46.372	4.288	23.152	1.00	18.24	MTGL
ATOM	887	CB	THR	113	45.408	5.474	22.930	1.00	17.98	MTGL
ATOM	888	OG1	THR	113	45.017	6.014	24.198	1.00	16.20	MTGL
ATOM	889	CG2	THR	113	44.158	5.021	22.184	1.00	17.01	MTGL
ATOM	890	C	THR	113	46.765	3.682	21.805	1.00	18.67	MTGL
ATOM	891	O	THR	113	46.272	2.619	21.423	1.00	18.43	MTGL
ATOM	892	N	LEU	114	47.655	4.360	21.090	1.00	19.14	MTGL
ATOM	893	CA	LEU	114	48.114	3.873	19.797	1.00	20.50	MTGL
ATOM	894	CB	LEU	114	49.133	4.848	19.197	1.00	20.12	MTGL
ATOM	895	CG	LEU	114	49.864	4.396	17.929	1.00	21.74	MTGL
ATOM	896	CD1	LEU	114	48.866	4.214	16.794	1.00	21.80	MTGL
ATOM	897	CD2	LEU	114	50.924	5.430	17.547	1.00	22.25	MTGL
ATOM	898	C	LEU	114	48.753	2.498	19.984	1.00	20.96	MTGL
ATOM	899	O	LEU	114	48.441	1.551	19.263	1.00	21.53	MTGL
ATOM	900	N	ASP	115	49.650	2.399	20.961	1.00	21.00	MTGL
ATOM	901	CA	ASP	115	50.335	1.148	21.252	1.00	21.18	MTGL
ATOM	902	CB	ASP	115	51.276	1.331	22.442	1.00	22.68	MTGL
ATOM	903	CG	ASP	115	51.957	0.041	22.843	1.00	24.76	MTGL
ATOM	904	OD1	ASP	115	52.826	-0.429	22.078	1.00	26.71	MTGL
ATOM	905	OD2	ASP	115	51.616	-0.509	23.917	1.00	25.94	MTGL
ATOM	906	C	ASP	115	49.351	0.018	21.561	1.00	21.01	MTGL
ATOM	907	O	ASP	115	49.461	-1.078	21.012	1.00	20.38	MTGL
ATOM	908	N	ALA	116	48.404	0.287	22.456	1.00	19.72	MTGL
ATOM	909	CA	ALA	116	47.410	-0.711	22.833	1.00	19.79	MTGL
ATOM	910	CB	ALA	116	46.501	-0.163	23.923	1.00	19.04	MTGL
ATOM	911	C	ALA	116	46.578	-1.140	21.627	1.00	18.78	MTGL
ATOM	912	O	ALA	116	46.302	-2.323	21.448	1.00	18.71	MTGL
ATOM	913	N	ALA	117	46.184	-0.172	20.806	1.00	18.51	MTGL
ATOM	914	CA	ALA	117	45.384	-0.456	19.616	1.00	19.07	MTGL
ATOM	915	CB	ALA	117	45.012	0.840	18.913	1.00	17.76	MTGL
ATOM	916	C	ALA	117	46.144	-1.372	18.662	1.00	19.00	MTGL
ATOM	917	O	ALA	117	45.588	-2.344	18.157	1.00	20.94	MTGL
ATOM	918	N	ASN	118	47.414	-1.064	18.421	1.00	19.11	MTGL
ATOM	919	CA	ASN	118	48.234	-1.880	17.530	1.00	20.09	MTGL
ATOM	920	CB	ASN	118	49.594	-1.214	17.280	1.00	19.53	MTGL
ATOM	921	CG	ASN	118	49.481	0.043	16.432	1.00	21.06	MTGL
ATOM	922	OD1	ASN	118	48.591	0.158	15.584	1.00	22.85	MTGL
ATOM	923	ND2	ASN	118	50.394	0.984	16.644	1.00	19.62	MTGL
ATOM	924	C	ASN	118	48.446	-3.294	18.069	1.00	20.53	MTGL
ATOM	925	O	ASN	118	48.509	-4.250	17.298	1.00	20.72	MTGL
ATOM	926	N	LYS	119	48.570	-3.427	19.389	1.00	20.26	MTGL
ATOM	927	CA	LYS	119	48.755	-4.745	19.992	1.00	19.69	MTGL

Fig. 1 cont.

ATOM	928	CB	LYS	119	49.134	-4.616	21.468	1.00	20.25	MTGL
ATOM	929	CG	LYS	119	50.589	-4.225	21.668	1.00	23.15	MTGL
ATOM	930	CD	LYS	119	50.933	-4.015	23.131	1.00	25.43	MTGL
ATOM	931	CE	LYS	119	52.378	-3.533	23.273	1.00	26.95	MTGL
ATOM	932	NZ	LYS	119	52.701	-3.126	24.666	1.00	26.48	MTGL
ATOM	933	C	LYS	119	47.482	-5.570	19.843	1.00	18.61	MTGL
ATOM	934	O	LYS	119	47.533	-6.777	19.615	1.00	16.84	MTGL
ATOM	935	N	LEU	120	46.339	-4.911	19.975	1.00	17.54	MTGL
ATOM	936	CA	LEU	120	45.064	-5.599	19.820	1.00	18.74	MTGL
ATOM	937	CB	LEU	120	43.909	-4.643	20.144	1.00	17.57	MTGL
ATOM	938	CG	LEU	120	43.736	-4.330	21.635	1.00	17.26	MTGL
ATOM	939	CD1	LEU	120	42.836	-3.117	21.830	1.00	17.85	MTGL
ATOM	940	CD2	LEU	120	43.152	-5.549	22.325	1.00	16.86	MTGL
ATOM	941	C	LEU	120	44.976	-6.086	18.372	1.00	18.39	MTGL
ATOM	942	O	LEU	120	44.660	-7.243	18.116	1.00	19.13	MTGL
ATOM	943	N	GLN	121	45.273	-5.193	17.434	1.00	19.05	MTGL
ATOM	944	CA	GLN	121	45.245	-5.524	16.013	1.00	20.51	MTGL
ATOM	945	CB	GLN	121	45.715	-4.324	15.182	1.00	20.27	MTGL
ATOM	946	CG	GLN	121	45.927	-4.606	13.694	1.00	19.88	MTGL
ATOM	947	CD	GLN	121	44.677	-5.116	12.998	1.00	20.20	MTGL
ATOM	948	OE1	GLN	121	43.565	-4.680	13.291	1.00	19.32	MTGL
ATOM	949	NE2	GLN	121	44.859	-6.035	12.055	1.00	20.98	MTGL
ATOM	950	C	GLN	121	46.142	-6.723	15.734	1.00	20.78	MTGL
ATOM	951	O	GLN	121	45.729	-7.672	15.078	1.00	21.20	MTGL
ATOM	952	N	ASN	122	47.369	-6.676	16.242	1.00	20.58	MTGL
ATOM	953	CA	ASN	122	48.322	-7.762	16.037	1.00	22.39	MTGL
ATOM	954	CB	ASN	122	49.685	-7.371	16.611	1.00	24.20	MTGL
ATOM	955	CG	ASN	122	50.350	-6.260	15.817	1.00	26.36	MTGL
ATOM	956	OD1	ASN	122	51.298	-5.630	16.285	1.00	29.40	MTGL
ATOM	957	ND2	ASN	122	49.863	-6.021	14.605	1.00	26.25	MTGL
ATOM	958	C	ASN	122	47.859	-9.082	16.646	1.00	22.40	MTGL
ATOM	959	O	ASN	122	48.312	-10.153	16.243	1.00	23.25	MTGL
ATOM	960	N	ALA	123	46.957	-9.005	17.616	1.00	21.34	MTGL
ATOM	961	CA	ALA	123	46.436	-10.209	18.252	1.00	21.19	MTGL
ATOM	962	CB	ALA	123	46.151	-9.939	19.730	1.00	21.28	MTGL
ATOM	963	C	ALA	123	45.163	-10.669	17.545	1.00	20.31	MTGL
ATOM	964	O	ALA	123	44.512	-11.621	17.981	1.00	21.19	MTGL
ATOM	965	N	GLY	124	44.813	-9.985	16.457	1.00	20.00	MTGL
ATOM	966	CA	GLY	124	43.621	-10.332	15.705	1.00	19.34	MTGL
ATOM	967	C	GLY	124	42.338	-9.853	16.367	1.00	20.32	MTGL
ATOM	968	O	GLY	124	41.255	-10.376	16.098	1.00	19.71	MTGL
ATOM	969	N	ILE	125	42.450	-8.855	17.239	1.00	18.85	MTGL
ATOM	970	CA	ILE	125	41.281	-8.327	17.928	1.00	17.97	MTGL
ATOM	971	CB	ILE	125	41.502	-8.279	19.465	1.00	18.21	MTGL
ATOM	972	CG2	ILE	125	40.264	-7.709	20.149	1.00	18.39	MTGL
ATOM	973	CG1	ILE	125	41.807	-9.681	20.013	1.00	16.78	MTGL
ATOM	974	CD1	ILE	125	40.682	-10.694	19.808	1.00	15.33	MTGL
ATOM	975	C	ILE	125	40.936	-6.908	17.460	1.00	18.72	MTGL
ATOM	976	O	ILE	125	41.682	-5.959	17.718	1.00	18.82	MTGL
ATOM	977	N	GLN	126	39.810	-6.771	16.769	1.00	17.38	MTGL
ATOM	978	CA	GLN	126	39.355	-5.463	16.310	1.00	17.54	MTGL
ATOM	979	CB	GLN	126	39.059	-5.459	14.810	1.00	17.95	MTGL
ATOM	980	CG	GLN	126	40.267	-5.634	13.905	1.00	18.48	MTGL
ATOM	981	CD	GLN	126	40.704	-7.082	13.784	1.00	19.41	MTGL
ATOM	982	OE1	GLN	126	39.874	-7.991	13.722	1.00	18.45	MTGL
ATOM	983	NE2	GLN	126	42.014	-7.302	13.731	1.00	18.37	MTGL
ATOM	984	C	GLN	126	38.078	-5.152	17.073	1.00	17.01	MTGL
ATOM	985	O	GLN	126	36.990	-5.578	16.686	1.00	17.42	MTGL

Fig. 1 cont.

ATOM	986	N	PRO	127	38.196	-4.424	18.189	1.00	17.14	MTGL
ATOM	987	CD	PRO	127	39.397	-3.833	18.803	1.00	16.94	MTGL
ATOM	988	CA	PRO	127	36.990	-4.103	18.954	1.00	17.76	MTGL
ATOM	989	CB	PRO	127	37.534	-3.333	20.162	1.00	17.60	MTGL
ATOM	990	CG	PRO	127	38.806	-2.730	19.644	1.00	20.07	MTGL
ATOM	991	C	PRO	127	36.004	-3.290	18.130	1.00	17.06	MTGL
ATOM	992	O	PRO	127	36.400	-2.472	17.303	1.00	18.03	MTGL
ATOM	993	N	THR	128	34.719	-3.536	18.340	1.00	17.80	MTGL
ATOM	994	CA	THR	128	33.688	-2.803	17.620	1.00	17.59	MTGL
ATOM	995	CB	THR	128	32.357	-3.582	17.615	1.00	18.62	MTGL
ATOM	996	OG1	THR	128	32.035	-3.994	18.951	1.00	17.44	MTGL
ATOM	997	CG2	THR	128	32.467	-4.816	16.717	1.00	18.59	MTGL
ATOM	998	C	THR	128	33.499	-1.451	18.310	1.00	17.94	MTGL
ATOM	999	O	THR	128	33.086	-0.476	17.683	1.00	16.71	MTGL
ATOM	1000	N	ILE	129	33.834	-1.397	19.600	1.00	16.54	MTGL
ATOM	1001	CA	ILE	129	33.701	-0.161	20.373	1.00	16.74	MTGL
ATOM	1002	CB	ILE	129	32.426	-0.166	21.249	1.00	17.47	MTGL
ATOM	1003	CG2	ILE	129	32.323	1.138	22.032	1.00	16.90	MTGL
ATOM	1004	CG1	ILE	129	31.182	-0.340	20.380	1.00	18.59	MTGL
ATOM	1005	CD1	ILE	129	29.913	-0.501	21.189	1.00	18.26	MTGL
ATOM	1006	C	ILE	129	34.878	0.056	21.317	1.00	16.72	MTGL
ATOM	1007	O	ILE	129	35.361	-0.883	21.949	1.00	16.12	MTGL
ATOM	1008	N	VAL	130	35.329	1.303	21.410	1.00	16.38	MTGL
ATOM	1009	CA	VAL	130	36.413	1.666	22.313	1.00	16.43	MTGL
ATOM	1010	CB	VAL	130	37.738	1.891	21.568	1.00	16.85	MTGL
ATOM	1011	CG1	VAL	130	38.783	2.444	22.532	1.00	15.96	MTGL
ATOM	1012	CG2	VAL	130	38.224	0.581	20.958	1.00	16.65	MTGL
ATOM	1013	C	VAL	130	36.040	2.965	23.020	1.00	16.57	MTGL
ATOM	1014	O	VAL	130	35.807	3.981	22.369	1.00	17.33	MTGL
ATOM	1015	N	SER	131	35.955	2.931	24.347	1.00	15.26	MTGL
ATOM	1016	CA	SER	131	35.640	4.142	25.088	1.00	14.32	MTGL
ATOM	1017	CB	SER	131	34.741	3.840	26.296	1.00	13.74	MTGL
ATOM	1018	OG	SER	131	35.427	3.100	27.299	1.00	14.55	MTGL
ATOM	1019	C	SER	131	36.957	4.737	25.563	1.00	13.67	MTGL
ATOM	1020	O	SER	131	37.812	4.024	26.094	1.00	14.63	MTGL
ATOM	1021	N	ILE	132	37.140	6.033	25.349	1.00	12.98	MTGL
ATOM	1022	CA	ILE	132	38.362	6.684	25.791	1.00	13.07	MTGL
ATOM	1023	CB	ILE	132	38.793	7.796	24.811	1.00	13.05	MTGL
ATOM	1024	CG2	ILE	132	39.419	7.169	23.573	1.00	14.24	MTGL
ATOM	1025	CG1	ILE	132	37.591	8.649	24.397	1.00	13.32	MTGL
ATOM	1026	CD1	ILE	132	37.960	9.760	23.429	1.00	14.06	MTGL
ATOM	1027	C	ILE	132	38.103	7.234	27.188	1.00	13.33	MTGL
ATOM	1028	O	ILE	132	37.800	8.415	27.372	1.00	12.93	MTGL
ATOM	1029	N	GLY	133	38.206	6.339	28.170	1.00	12.78	MTGL
ATOM	1030	CA	GLY	133	37.957	6.703	29.552	1.00	13.26	MTGL
ATOM	1031	C	GLY	133	36.687	6.040	30.066	1.00	14.41	MTGL
ATOM	1032	O	GLY	133	35.821	5.638	29.279	1.00	14.45	MTGL
ATOM	1033	N	ASN	134	36.573	5.915	31.385	1.00	14.34	MTGL
ATOM	1034	CA	ASN	134	35.393	5.311	31.995	1.00	14.81	MTGL
ATOM	1035	CB	ASN	134	35.797	4.063	32.780	1.00	14.03	MTGL
ATOM	1036	CG	ASN	134	34.602	3.307	33.321	1.00	15.54	MTGL
ATOM	1037	OD1	ASN	134	33.932	2.558	32.596	1.00	14.69	MTGL
ATOM	1038	ND2	ASN	134	34.311	3.515	34.599	1.00	13.31	MTGL
ATOM	1039	C	ASN	134	34.727	6.328	32.929	1.00	15.45	MTGL
ATOM	1040	O	ASN	134	35.355	6.823	33.865	1.00	14.99	MTGL
ATOM	1041	N	GLU	135	33.458	6.632	32.672	1.00	15.32	MTGL
ATOM	1042	CA	GLU	135	32.708	7.600	33.480	1.00	16.19	MTGL
ATOM	1043	CB	GLU	135	32.225	6.948	34.780	1.00	16.84	MTGL

Fig. 1 cont.

ATOM	1044	CG	GLU	135	31.360	5.710	34.571	1.00	18.65	MTGL
ATOM	1045	CD	GLU	135	30.758	5.173	35.862	1.00	19.18	MTGL
ATOM	1046	OE1	GLU	135	31.449	5.200	36.905	1.00	20.99	MTGL
ATOM	1047	OE2	GLU	135	29.602	4.705	35.829	1.00	16.99	MTGL
ATOM	1048	C	GLU	135	33.553	8.834	33.806	1.00	16.49	MTGL
ATOM	1049	O	GLU	135	33.777	9.153	34.974	1.00	15.93	MTGL
ATOM	1050	N	ILE	136	34.004	9.536	32.770	1.00	15.57	MTGL
ATOM	1051	CA	ILE	136	34.846	10.712	32.957	1.00	16.13	MTGL
ATOM	1052	CB	ILE	136	35.802	10.887	31.756	1.00	16.05	MTGL
ATOM	1053	CG2	ILE	136	36.783	9.719	31.706	1.00	16.66	MTGL
ATOM	1054	CG1	ILE	136	35.001	10.956	30.451	1.00	16.40	MTGL
ATOM	1055	CD1	ILE	136	35.858	11.171	29.211	1.00	14.50	MTGL
ATOM	1056	C	ILE	136	34.060	12.006	33.168	1.00	16.79	MTGL
ATOM	1057	O	ILE	136	34.457	13.067	32.697	1.00	16.67	MTGL
ATOM	1058	N	ARG	137	32.949	11.909	33.890	1.00	17.28	MTGL
ATOM	1059	CA	ARG	137	32.099	13.057	34.170	1.00	18.25	MTGL
ATOM	1060	CB	ARG	137	30.884	12.612	34.976	1.00	20.33	MTGL
ATOM	1061	CG	ARG	137	29.879	13.712	35.248	1.00	22.61	MTGL
ATOM	1062	CD	ARG	137	29.087	13.370	36.487	1.00	26.40	MTGL
ATOM	1063	NE	ARG	137	29.837	13.668	37.696	1.00	28.06	MTGL
ATOM	1064	CZ	ARG	137	29.643	13.076	38.869	1.00	28.40	MTGL
ATOM	1065	NH1	ARG	137	28.726	12.132	39.006	1.00	27.39	MTGL
ATOM	1066	NH2	ARG	137	30.355	13.459	39.918	1.00	30.54	MTGL
ATOM	1067	C	ARG	137	32.849	14.145	34.937	1.00	19.12	MTGL
ATOM	1068	O	ARG	137	32.537	15.327	34.812	1.00	19.19	MTGL
ATOM	1069	N	ALA	138	33.832	13.744	35.738	1.00	17.89	MTGL
ATOM	1070	CA	ALA	138	34.626	14.708	36.487	1.00	18.61	MTGL
ATOM	1071	CB	ALA	138	34.679	14.320	37.965	1.00	18.89	MTGL
ATOM	1072	C	ALA	138	36.028	14.744	35.888	1.00	18.04	MTGL
ATOM	1073	O	ALA	138	37.003	15.050	36.573	1.00	18.75	MTGL
ATOM	1074	N	GLY	139	36.119	14.415	34.603	1.00	17.60	MTGL
ATOM	1075	CA	GLY	139	37.401	14.424	33.920	1.00	16.74	MTGL
ATOM	1076	C	GLY	139	38.141	13.103	33.979	1.00	17.00	MTGL
ATOM	1077	O	GLY	139	37.558	12.061	34.303	1.00	15.56	MTGL
ATOM	1078	N	LEU	140	39.430	13.150	33.653	1.00	16.36	MTGL
ATOM	1079	CA	LEU	140	40.288	11.965	33.666	1.00	16.91	MTGL
ATOM	1080	CB	LEU	140	40.254	11.255	32.308	1.00	16.55	MTGL
ATOM	1081	CG	LEU	140	40.965	11.954	31.137	1.00	17.14	MTGL
ATOM	1082	CD1	LEU	140	41.157	10.962	29.985	1.00	17.61	MTGL
ATOM	1083	CD2	LEU	140	40.158	13.157	30.673	1.00	16.51	MTGL
ATOM	1084	C	LEU	140	41.731	12.366	33.961	1.00	16.82	MTGL
ATOM	1085	O	LEU	140	42.078	13.549	33.919	1.00	16.86	MTGL
ATOM	1086	N	LEU	141	42.566	11.373	34.254	1.00	16.21	MTGL
ATOM	1087	CA	LEU	141	43.979	11.616	34.521	1.00	16.03	MTGL
ATOM	1088	CB	LEU	141	44.711	11.839	33.191	1.00	24.81	MTGL
ATOM	1089	CG	LEU	141	44.626	10.646	32.220	1.00	15.72	MTGL
ATOM	1090	CD1	LEU	141	45.076	11.054	30.818	1.00	14.73	MTGL
ATOM	1091	CD2	LEU	141	45.494	9.501	32.752	1.00	14.97	MTGL
ATOM	1092	C	LEU	141	44.166	12.822	35.444	1.00	16.13	MTGL
ATOM	1093	O	LEU	141	44.776	13.819	35.069	1.00	15.77	MTGL
ATOM	1094	N	TRP	142	43.631	12.715	36.655	1.00	16.15	MTGL
ATOM	1095	CA	TRP	142	43.718	13.789	37.635	1.00	16.13	MTGL
ATOM	1096	CB	TRP	142	42.854	13.446	38.845	1.00	16.04	MTGL
ATOM	1097	CG	TRP	142	41.387	13.408	38.559	1.00	16.68	MTGL
ATOM	1098	CD2	TRP	142	40.345	13.114	39.494	1.00	16.86	MTGL
ATOM	1099	CE2	TRP	142	39.117	13.217	38.800	1.00	16.85	MTGL
ATOM	1100	CE3	TRP	142	40.330	12.779	40.855	1.00	17.53	MTGL
ATOM	1101	CD1	TRP	142	40.769	13.669	37.365	1.00	16.02	MTGL

Fig. 1 cont.

ATOM	1102	NE1	TRP	142	39.404	13.557	37.503	1.00	16.14	MTGL
ATOM	1103	CZ2	TRP	142	37.884	12.993	39.421	1.00	16.71	MTGL
ATOM	1104	CZ3	TRP	142	39.097	12.557	41.475	1.00	17.85	MTGL
ATOM	1105	CH2	TRP	142	37.894	12.666	40.755	1.00	17.70	MTGL
ATOM	1106	C	TRP	142	45.151	14.036	38.092	1.00	16.70	MTGL
ATOM	1107	O	TRP	142	45.965	13.116	38.132	1.00	15.98	MTGL
ATOM	1108	N	PRO	143	45.476	15.289	38.452	1.00	18.10	MTGL
ATOM	1109	CD	PRO	143	46.716	15.597	39.183	1.00	18.05	MTGL
ATOM	1110	CA	PRO	143	44.586	16.458	38.444	1.00	17.24	MTGL
ATOM	1111	CB	PRO	143	45.170	17.362	39.539	1.00	17.56	MTGL
ATOM	1112	CG	PRO	143	46.199	16.496	40.260	1.00	19.44	MTGL
ATOM	1113	C	PRO	143	44.599	17.177	37.096	1.00	17.09	MTGL
ATOM	1114	O	PRO	143	43.804	18.092	36.864	1.00	16.74	MTGL
ATOM	1115	N	THR	144	45.509	16.767	36.219	1.00	16.23	MTGL
ATOM	1116	CA	THR	144	45.651	17.396	34.910	1.00	17.05	MTGL
ATOM	1117	CB	THR	144	46.677	16.640	34.048	1.00	17.49	MTGL
ATOM	1118	OG1	THR	144	47.864	16.413	34.817	1.00	18.41	MTGL
ATOM	1119	CG2	THR	144	47.040	17.453	32.811	1.00	17.61	MTGL
ATOM	1120	C	THR	144	44.346	17.510	34.129	1.00	16.98	MTGL
ATOM	1121	O	THR	144	44.027	18.579	33.610	1.00	17.37	MTGL
ATOM	1122	N	GLY	145	43.594	16.414	34.052	1.00	17.00	MTGL
ATOM	1123	CA	GLY	145	42.336	16.432	33.322	1.00	16.55	MTGL
ATOM	1124	C	GLY	145	41.111	16.472	34.219	1.00	17.19	MTGL
ATOM	1125	O	GLY	145	40.033	16.013	33.837	1.00	15.11	MTGL
ATOM	1126	N	ARG	146	41.269	17.009	35.423	1.00	16.86	MTGL
ATOM	1127	CA	ARG	146	40.153	17.118	36.361	1.00	18.80	MTGL
ATOM	1128	CB	ARG	146	40.707	17.308	37.784	1.00	20.43	MTGL
ATOM	1129	CG	ARG	146	39.671	17.572	38.870	1.00	24.77	MTGL
ATOM	1130	CD	ARG	146	38.729	16.394	39.052	1.00	27.03	MTGL
ATOM	1131	NE	ARG	146	37.715	16.623	40.081	1.00	30.10	MTGL
ATOM	1132	CZ	ARG	146	37.922	16.516	41.391	1.00	31.39	MTGL
ATOM	1133	NH1	ARG	146	39.122	16.182	41.861	1.00	31.38	MTGL
ATOM	1134	NH2	ARG	146	36.916	16.729	42.236	1.00	32.17	MTGL
ATOM	1135	C	ARG	146	39.261	18.308	35.961	1.00	18.91	MTGL
ATOM	1136	O	ARG	146	39.763	19.344	35.534	1.00	17.30	MTGL
ATOM	1137	N	THR	147	37.940	18.147	36.055	1.00	18.95	MTGL
ATOM	1138	CA	THR	147	37.037	19.255	35.732	1.00	19.02	MTGL
ATOM	1139	CB	THR	147	35.550	18.826	35.731	1.00	18.33	MTGL
ATOM	1140	OG1	THR	147	35.278	18.044	36.890	1.00	18.17	MTGL
ATOM	1141	CG2	THR	147	35.217	18.016	34.490	1.00	18.17	MTGL
ATOM	1142	C	THR	147	37.278	20.271	36.858	1.00	19.51	MTGL
ATOM	1143	O	THR	147	37.539	19.861	37.983	1.00	18.48	MTGL
ATOM	1144	N	GLU	148	37.158	21.574	36.598	1.00	19.44	MTGL
ATOM	1145	CA	GLU	148	36.771	22.124	35.317	1.00	20.37	MTGL
ATOM	1146	CB	GLU	148	35.829	23.309	35.551	1.00	22.32	MTGL
ATOM	1147	CG	GLU	148	34.576	22.960	36.356	1.00	26.58	MTGL
ATOM	1148	CD	GLU	148	34.081	24.123	37.217	1.00	29.48	MTGL
ATOM	1149	OE1	GLU	148	33.777	25.209	36.672	1.00	30.90	MTGL
ATOM	1150	OE2	GLU	148	33.988	23.929	38.448	1.00	30.75	MTGL
ATOM	1151	C	GLU	148	37.858	22.540	34.312	1.00	20.17	MTGL
ATOM	1152	O	GLU	148	37.649	23.550	33.633	1.00	20.26	MTGL
ATOM	1153	N	ASN	149	39.019	21.853	34.186	0.50	20.18	MTGL
ATOM	1154	CA	ASN	149	40.039	22.216	33.154	0.50	20.26	MTGL
ATOM	1155	CB	ASN	149	41.436	21.616	33.436	0.50	21.36	MTGL
ATOM	1156	CG	ASN	149	42.198	22.423	34.433	0.50	22.41	MTGL
ATOM	1157	OD1	ASN	149	42.651	23.520	34.132	0.50	23.31	MTGL
ATOM	1158	ND2	ASN	149	42.298	21.917	35.646	0.50	23.40	MTGL
ATOM	1159	C	ASN	149	39.555	21.656	31.811	0.50	19.48	MTGL

Fig. 1 cont.

ATOM	1160	O	ASN	149	40.152	20.702	31.289	0.50	17.94	MTGL
ATOM	1161	N	TRP	150	38.480	22.230	31.261	1.00	19.00	MTGL
ATOM	1162	CA	TRP	150	37.920	21.769	30.000	1.00	18.91	MTGL
ATOM	1163	CB	TRP	150	36.777	22.704	29.605	1.00	18.17	MTGL
ATOM	1164	CG	TRP	150	35.710	22.781	30.629	1.00	17.82	MTGL
ATOM	1165	CD2	TRP	150	34.895	21.702	31.094	1.00	18.44	MTGL
ATOM	1166	CE2	TRP	150	34.013	22.232	32.060	1.00	18.24	MTGL
ATOM	1167	CE3	TRP	150	34.824	20.335	30.787	1.00	18.25	MTGL
ATOM	1168	CD1	TRP	150	35.301	23.895	31.310	1.00	17.99	MTGL
ATOM	1169	NE1	TRP	150	34.282	23.571	32.170	1.00	19.19	MTGL
ATOM	1170	CZ2	TRP	150	33.066	21.443	32.725	1.00	19.86	MTGL
ATOM	1171	CZ3	TRP	150	33.879	19.547	31.448	1.00	19.02	MTGL
ATOM	1172	CH2	TRP	150	33.013	20.105	32.408	1.00	19.52	MTGL
ATOM	1173	C	TRP	150	38.990	21.744	28.904	1.00	19.25	MTGL
ATOM	1174	O	TRP	150	39.022	20.828	28.091	1.00	19.43	MTGL
ATOM	1175	N	ALA	151	39.851	22.759	28.880	1.00	17.86	MTGL
ATOM	1176	CA	ALA	151	40.897	22.822	27.864	1.00	18.96	MTGL
ATOM	1177	CB	ALA	151	41.753	24.090	28.047	1.00	19.41	MTGL
ATOM	1178	C	ALA	151	41.784	21.571	27.897	1.00	18.90	MTGL
ATOM	1179	O	ALA	151	42.098	20.994	26.857	1.00	19.89	MTGL
ATOM	1180	N	ASN	152	42.184	21.144	29.088	1.00	18.45	MTGL
ATOM	1181	CA	ASN	152	43.027	19.954	29.209	1.00	18.07	MTGL
ATOM	1182	CB	ASN	152	43.584	19.830	30.635	1.00	16.97	MTGL
ATOM	1183	CG	ASN	152	44.767	20.764	30.886	1.00	18.19	MTGL
ATOM	1184	OD1	ASN	152	45.095	21.603	30.054	1.00	17.89	MTGL
ATOM	1185	ND2	ASN	152	45.407	20.618	32.043	1.00	17.33	MTGL
ATOM	1186	C	ASN	152	42.250	18.686	28.848	1.00	17.48	MTGL
ATOM	1187	O	ASN	152	42.762	17.805	28.155	1.00	17.16	MTGL
ATOM	1188	N	ILE	153	41.016	18.598	29.325	1.00	17.57	MTGL
ATOM	1189	CA	ILE	153	40.177	17.437	29.048	1.00	18.34	MTGL
ATOM	1190	CB	ILE	153	38.801	17.573	29.741	1.00	17.84	MTGL
ATOM	1191	CG2	ILE	153	37.836	16.486	29.243	1.00	17.51	MTGL
ATOM	1192	CG1	ILE	153	38.987	17.468	31.255	1.00	17.49	MTGL
ATOM	1193	CD1	ILE	153	37.761	17.837	32.060	1.00	17.26	MTGL
ATOM	1194	C	ILE	153	39.974	17.246	27.548	1.00	17.82	MTGL
ATOM	1195	O	ILE	153	40.174	16.150	27.027	1.00	17.52	MTGL
ATOM	1196	N	ALA	154	39.596	18.318	26.858	1.00	17.93	MTGL
ATOM	1197	CA	ALA	154	39.359	18.255	25.416	1.00	18.68	MTGL
ATOM	1198	CB	ALA	154	38.884	19.620	24.896	1.00	17.82	MTGL
ATOM	1199	C	ALA	154	40.624	17.834	24.686	1.00	18.79	MTGL
ATOM	1200	O	ALA	154	40.584	17.037	23.744	1.00	17.95	MTGL
ATOM	1201	N	ARG	155	41.749	18.375	25.131	1.00	18.32	MTGL
ATOM	1202	CA	ARG	155	43.025	18.064	24.512	1.00	19.09	MTGL
ATOM	1203	CB	ARG	155	44.098	18.972	25.094	1.00	20.03	MTGL
ATOM	1204	CG	ARG	155	45.415	18.867	24.403	1.00	23.57	MTGL
ATOM	1205	CD	ARG	155	46.295	19.990	24.873	1.00	26.84	MTGL
ATOM	1206	NE	ARG	155	47.681	19.767	24.498	1.00	29.65	MTGL
ATOM	1207	CZ	ARG	155	48.686	20.513	24.931	1.00	28.58	MTGL
ATOM	1208	NH1	ARG	155	48.443	21.525	25.753	1.00	29.23	MTGL
ATOM	1209	NH2	ARG	155	49.922	20.244	24.540	1.00	29.12	MTGL
ATOM	1210	C	ARG	155	43.402	16.598	24.721	1.00	18.37	MTGL
ATOM	1211	O	ARG	155	43.848	15.916	23.792	1.00	17.92	MTGL
ATOM	1212	N	LEU	156	43.217	16.115	25.944	1.00	17.77	MTGL
ATOM	1213	CA	LEU	156	43.540	14.731	26.258	1.00	17.18	MTGL
ATOM	1214	CB	LEU	156	43.360	14.473	27.761	1.00	16.68	MTGL
ATOM	1215	CG	LEU	156	44.375	15.158	28.689	1.00	16.04	MTGL
ATOM	1216	CD1	LEU	156	43.921	15.032	30.139	1.00	17.64	MTGL
ATOM	1217	CD2	LEU	156	45.745	14.532	28.504	1.00	14.11	MTGL

Fig. 1 cont.

ATOM	1218	C	LEU	156	42.660	13.777	25.447	1.00	17.29	MTGL
ATOM	1219	O	LEU	156	43.152	12.794	24.886	1.00	16.71	MTGL
ATOM	1220	N	LEU	157	41.363	14.071	25.377	1.00	16.48	MTGL
ATOM	1221	CA	LEU	157	40.438	13.219	24.639	1.00	16.71	MTGL
ATOM	1222	CB	LEU	157	38.992	13.651	24.900	1.00	15.25	MTGL
ATOM	1223	CG	LEU	157	38.509	13.425	26.339	1.00	14.15	MTGL
ATOM	1224	CD1	LEU	157	37.080	13.903	26.505	1.00	13.65	MTGL
ATOM	1225	CD2	LEU	157	38.599	11.944	26.676	1.00	13.61	MTGL
ATOM	1226	C	LEU	157	40.744	13.230	23.146	1.00	18.12	MTGL
ATOM	1227	O	LEU	157	40.549	12.224	22.456	1.00	16.85	MTGL
ATOM	1228	N	HIS	158	41.231	14.366	22.652	1.00	19.80	MTGL
ATOM	1229	CA	HIS	158	41.600	14.498	21.244	1.00	20.98	MTGL
ATOM	1230	CB	HIS	158	42.001	15.946	20.938	1.00	22.94	MTGL
ATOM	1231	CG	HIS	158	42.458	16.170	19.528	1.00	24.32	MTGL
ATOM	1232	CD2	HIS	158	43.695	16.367	19.013	1.00	23.88	MTGL
ATOM	1233	ND1	HIS	158	41.586	16.230	18.460	1.00	24.92	MTGL
ATOM	1234	CE1	HIS	158	42.266	16.460	17.350	1.00	23.22	MTGL
ATOM	1235	NE2	HIS	158	43.548	16.547	17.658	1.00	24.57	MTGL
ATOM	1236	C	HIS	158	42.783	13.567	20.973	1.00	21.01	MTGL
ATOM	1237	O	HIS	158	42.809	12.851	19.971	1.00	21.78	MTGL
ATOM	1238	N	SER	159	43.762	13.578	21.874	1.00	20.28	MTGL
ATOM	1239	CA	SER	159	44.940	12.730	21.726	1.00	20.15	MTGL
ATOM	1240	CB	SER	159	45.961	13.021	22.829	1.00	21.81	MTGL
ATOM	1241	OG	SER	159	46.476	14.333	22.721	1.00	24.73	MTGL
ATOM	1242	C	SER	159	44.570	11.253	21.774	1.00	18.92	MTGL
ATOM	1243	O	SER	159	45.095	10.453	21.004	1.00	19.31	MTGL
ATOM	1244	N	ALA	160	43.675	10.894	22.687	1.00	17.87	MTGL
ATOM	1245	CA	ALA	160	43.249	9.504	22.824	1.00	17.96	MTGL
ATOM	1246	CB	ALA	160	42.322	9.352	24.026	1.00	18.26	MTGL
ATOM	1247	C	ALA	160	42.538	9.044	21.556	1.00	18.59	MTGL
ATOM	1248	O	ALA	160	42.844	7.982	21.013	1.00	17.77	MTGL
ATOM	1249	N	ALA	161	41.593	9.852	21.083	1.00	18.03	MTGL
ATOM	1250	CA	ALA	161	40.846	9.519	19.875	1.00	18.84	MTGL
ATOM	1251	CB	ALA	161	39.851	10.623	19.547	1.00	16.85	MTGL
ATOM	1252	C	ALA	161	41.778	9.294	18.695	1.00	18.82	MTGL
ATOM	1253	O	ALA	161	41.654	8.301	17.983	1.00	19.53	MTGL
ATOM	1254	N	TRP	162	42.715	10.211	18.485	1.00	18.98	MTGL
ATOM	1255	CA	TRP	162	43.636	10.057	17.371	1.00	19.92	MTGL
ATOM	1256	CB	TRP	162	44.330	11.386	17.064	1.00	21.12	MTGL
ATOM	1257	CG	TRP	162	43.420	12.264	16.268	1.00	24.00	MTGL
ATOM	1258	CD2	TRP	162	43.215	12.212	14.851	1.00	24.55	MTGL
ATOM	1259	CE2	TRP	162	42.158	13.102	14.546	1.00	24.96	MTGL
ATOM	1260	CE3	TRP	162	43.822	11.499	13.808	1.00	25.38	MTGL
ATOM	1261	CD1	TRP	162	42.509	13.160	16.752	1.00	24.55	MTGL
ATOM	1262	NE1	TRP	162	41.743	13.665	15.724	1.00	25.20	MTGL
ATOM	1263	CZ2	TRP	162	41.691	13.293	13.241	1.00	24.56	MTGL
ATOM	1264	CZ3	TRP	162	43.355	11.689	12.507	1.00	25.72	MTGL
ATOM	1265	CH2	TRP	162	42.302	12.581	12.238	1.00	24.73	MTGL
ATOM	1266	C	TRP	162	44.643	8.927	17.556	1.00	20.10	MTGL
ATOM	1267	O	TRP	162	45.263	8.483	16.596	1.00	19.99	MTGL
ATOM	1268	N	GLY	163	44.803	8.458	18.786	1.00	20.69	MTGL
ATOM	1269	CA	GLY	163	45.703	7.343	19.016	1.00	20.86	MTGL
ATOM	1270	C	GLY	163	45.051	6.124	18.375	1.00	20.81	MTGL
ATOM	1271	O	GLY	163	45.720	5.225	17.868	1.00	20.64	MTGL
ATOM	1272	N	ILE	164	43.724	6.109	18.395	1.00	20.00	MTGL
ATOM	1273	CA	ILE	164	42.956	5.020	17.810	1.00	19.28	MTGL
ATOM	1274	CB	ILE	164	41.515	5.020	18.347	1.00	18.69	MTGL
ATOM	1275	CG2	ILE	164	40.670	3.977	17.601	1.00	17.15	MTGL

Fig. 1 cont.

ATOM	1276	CG1	ILE	164	41.529	4.750	19.852	1.00	18.11	MTGL
ATOM	1277	CD1	ILE	164	40.155	4.779	20.489	1.00	18.52	MTGL
ATOM	1278	C	ILE	164	42.913	5.181	16.291	1.00	20.20	MTGL
ATOM	1279	O	ILE	164	43.125	4.219	15.548	1.00	18.00	MTGL
ATOM	1280	N	LYS	165	42.645	6.405	15.839	1.00	20.30	MTGL
ATOM	1281	CA	LYS	165	42.563	6.701	14.410	1.00	21.80	MTGL
ATOM	1282	CB	LYS	165	42.100	8.149	14.191	1.00	21.88	MTGL
ATOM	1283	CG	LYS	165	40.670	8.436	14.647	1.00	23.28	MTGL
ATOM	1284	CD	LYS	165	40.346	9.924	14.509	1.00	22.94	MTGL
ATOM	1285	CE	LYS	165	38.989	10.268	15.097	1.00	24.34	MTGL
ATOM	1286	NZ	LYS	165	37.857	9.632	14.363	1.00	25.77	MTGL
ATOM	1287	C	LYS	165	43.879	6.468	13.668	1.00	21.72	MTGL
ATOM	1288	O	LYS	165	43.868	6.086	12.501	1.00	21.82	MTGL
ATOM	1289	N	ASP	166	45.009	6.699	14.335	1.00	22.15	MTGL
ATOM	1290	CA	ASP	166	46.315	6.496	13.705	1.00	21.98	MTGL
ATOM	1291	CB	ASP	166	47.373	7.438	14.299	1.00	22.61	MTGL
ATOM	1292	CG	ASP	166	47.119	8.907	13.970	1.00	24.69	MTGL
ATOM	1293	OD1	ASP	166	46.345	9.197	13.032	1.00	25.51	MTGL
ATOM	1294	OD2	ASP	166	47.709	9.775	14.645	1.00	23.73	MTGL
ATOM	1295	C	ASP	166	46.818	5.063	13.853	1.00	21.80	MTGL
ATOM	1296	O	ASP	166	47.900	4.737	13.373	1.00	22.35	MTGL
ATOM	1297	N	SER	167	46.043	4.208	14.511	1.00	21.58	MTGL
ATOM	1298	CA	SER	167	46.460	2.822	14.722	1.00	21.57	MTGL
ATOM	1299	CB	SER	167	45.724	2.229	15.927	1.00	20.98	MTGL
ATOM	1300	OG	SER	167	44.368	1.952	15.620	1.00	20.07	MTGL
ATOM	1301	C	SER	167	46.235	1.920	13.508	1.00	21.73	MTGL
ATOM	1302	O	SER	167	45.669	2.347	12.503	1.00	21.01	MTGL
ATOM	1303	N	SER	168	46.676	0.668	13.619	1.00	21.44	MTGL
ATOM	1304	CA	SER	168	46.520	-0.304	12.539	1.00	20.71	MTGL
ATOM	1305	CB	SER	168	47.711	-1.264	12.519	1.00	21.31	MTGL
ATOM	1306	OG	SER	168	47.836	-1.921	13.768	1.00	23.08	MTGL
ATOM	1307	C	SER	168	45.229	-1.116	12.654	1.00	20.14	MTGL
ATOM	1308	O	SER	168	45.001	-2.033	11.869	1.00	19.79	MTGL
ATOM	1309	N	LEU	169	44.388	-0.792	13.630	1.00	19.27	MTGL
ATOM	1310	CA	LEU	169	43.132	-1.514	13.791	1.00	19.92	MTGL
ATOM	1311	CB	LEU	169	42.306	-0.921	14.935	1.00	19.48	MTGL
ATOM	1312	CG	LEU	169	42.758	-1.226	16.365	1.00	19.56	MTGL
ATOM	1313	CD1	LEU	169	41.918	-0.417	17.342	1.00	18.93	MTGL
ATOM	1314	CD2	LEU	169	42.612	-2.717	16.650	1.00	19.30	MTGL
ATOM	1315	C	LEU	169	42.323	-1.450	12.501	1.00	20.54	MTGL
ATOM	1316	O	LEU	169	42.053	-0.365	11.981	1.00	20.27	MTGL
ATOM	1317	N	SER	170	41.940	-2.614	11.987	1.00	20.36	MTGL
ATOM	1318	CA	SER	170	41.159	-2.678	10.760	1.00	21.47	MTGL
ATOM	1319	CB	SER	170	42.088	-2.784	9.545	1.00	22.54	MTGL
ATOM	1320	OG	SER	170	41.344	-2.749	8.341	1.00	22.78	MTGL
ATOM	1321	C	SER	170	40.216	-3.875	10.797	1.00	21.69	MTGL
ATOM	1322	O	SER	170	40.659	-5.024	10.819	1.00	21.79	MTGL
ATOM	1323	N	PRO	171	38.899	-3.621	10.800	1.00	21.30	MTGL
ATOM	1324	CD	PRO	171	37.874	-4.676	10.884	1.00	21.70	MTGL
ATOM	1325	CA	PRO	171	38.277	-2.294	10.764	1.00	21.48	MTGL
ATOM	1326	CB	PRO	171	36.806	-2.616	10.530	1.00	21.60	MTGL
ATOM	1327	CG	PRO	171	36.644	-3.901	11.285	1.00	22.67	MTGL
ATOM	1328	C	PRO	171	38.497	-1.472	12.039	1.00	21.36	MTGL
ATOM	1329	O	PRO	171	38.790	-2.009	13.109	1.00	20.24	MTGL
ATOM	1330	N	LYS	172	38.351	-0.161	11.908	1.00	20.37	MTGL
ATOM	1331	CA	LYS	172	38.525	0.749	13.032	1.00	21.42	MTGL
ATOM	1332	CB	LYS	172	38.670	2.183	12.501	1.00	22.43	MTGL
ATOM	1333	CG	LYS	172	39.602	3.071	13.310	1.00	25.68	MTGL

Fig. 1 cont.

ATOM	1334	CD	LYS	172	41.052	2.616	13.220	1.00	24.85	MTGL
ATOM	1335	CE	LYS	172	41.659	2.946	11.878	1.00	25.80	MTGL
ATOM	1336	NZ	LYS	172	42.984	2.294	11.703	1.00	24.26	MTGL
ATOM	1337	C	LYS	172	37.295	0.626	13.940	1.00	20.16	MTGL
ATOM	1338	O	LYS	172	36.199	0.307	13.478	1.00	19.92	MTGL
ATOM	1339	N	PRO	173	37.465	0.848	15.248	1.00	19.30	MTGL
ATOM	1340	CD	PRO	173	38.722	1.088	15.980	1.00	19.67	MTGL
ATOM	1341	CA	PRO	173	36.335	0.751	16.177	1.00	19.05	MTGL
ATOM	1342	CB	PRO	173	37.018	0.437	17.497	1.00	19.14	MTGL
ATOM	1343	CG	PRO	173	38.237	1.321	17.412	1.00	18.48	MTGL
ATOM	1344	C	PRO	173	35.565	2.066	16.270	1.00	18.59	MTGL
ATOM	1345	O	PRO	173	36.049	3.110	15.832	1.00	16.92	MTGL
ATOM	1346	N	LYS	174	34.359	2.007	16.624	1.00	17.93	MTGL
ATOM	1347	CA	LYS	174	33.591	3.222	17.037	1.00	18.70	MTGL
ATOM	1348	CB	LYS	174	32.109	2.901	17.240	1.00	18.25	MTGL
ATOM	1349	CG	LYS	174	31.388	2.529	15.947	1.00	19.90	MTGL
ATOM	1350	CD	LYS	174	29.937	2.142	16.200	1.00	20.92	MTGL
ATOM	1351	CE	LYS	174	29.230	1.784	14.892	1.00	21.51	MTGL
ATOM	1352	NZ	LYS	174	27.839	1.317	15.135	1.00	20.89	MTGL
ATOM	1353	C	LYS	174	34.193	3.808	18.318	1.00	18.48	MTGL
ATOM	1354	O	LYS	174	34.452	3.076	19.281	1.00	18.00	MTGL
ATOM	1355	N	ILE	175	34.448	5.112	18.320	1.00	17.76	MTGL
ATOM	1356	CA	ILE	175	35.033	5.768	19.487	1.00	17.60	MTGL
ATOM	1357	CB	ILE	175	35.999	6.883	19.050	1.00	17.54	MTGL
ATOM	1358	CG2	ILE	175	36.564	7.610	20.271	1.00	17.48	MTGL
ATOM	1359	CG1	ILE	175	37.134	6.266	18.226	1.00	16.88	MTGL
ATOM	1360	CD1	ILE	175	38.083	7.263	17.618	1.00	15.96	MTGL
ATOM	1361	C	ILE	175	33.945	6.330	20.393	1.00	17.11	MTGL
ATOM	1362	O	ILE	175	33.102	7.122	19.962	1.00	17.92	MTGL
ATOM	1363	N	MET	176	33.966	5.914	21.653	1.00	16.13	MTGL
ATOM	1364	CA	MET	176	32.955	6.345	22.615	1.00	16.14	MTGL
ATOM	1365	CB	MET	176	32.223	5.120	23.171	1.00	16.50	MTGL
ATOM	1366	CG	MET	176	31.333	5.410	24.379	1.00	16.70	MTGL
ATOM	1367	SD	MET	176	30.643	3.896	25.097	1.00	19.61	MTGL
ATOM	1368	CE	MET	176	29.473	3.433	23.769	1.00	15.92	MTGL
ATOM	1369	C	MET	176	33.458	7.163	23.797	1.00	16.18	MTGL
ATOM	1370	O	MET	176	34.562	6.946	24.299	1.00	15.62	MTGL
ATOM	1371	N	ILE	177	32.628	8.109	24.227	1.00	16.05	MTGL
ATOM	1372	CA	ILE	177	32.915	8.927	25.402	1.00	16.22	MTGL
ATOM	1373	CB	ILE	177	32.786	10.436	25.117	1.00	15.59	MTGL
ATOM	1374	CG2	ILE	177	32.729	11.210	26.438	1.00	16.50	MTGL
ATOM	1375	CG1	ILE	177	33.985	10.900	24.273	1.00	16.91	MTGL
ATOM	1376	CD1	ILE	177	33.988	12.380	23.935	1.00	17.23	MTGL
ATOM	1377	C	ILE	177	31.847	8.467	26.383	1.00	15.72	MTGL
ATOM	1378	O	ILE	177	30.660	8.467	26.062	1.00	16.21	MTGL
ATOM	1379	N	HIS	178	32.278	8.061	27.571	1.00	16.15	MTGL
ATOM	1380	CA	HIS	178	31.376	7.518	28.581	1.00	16.02	MTGL
ATOM	1381	CB	HIS	178	31.866	6.112	28.949	1.00	14.76	MTGL
ATOM	1382	CG	HIS	178	31.099	5.461	30.057	1.00	14.66	MTGL
ATOM	1383	CD2	HIS	178	29.850	5.681	30.534	1.00	13.15	MTGL
ATOM	1384	ND1	HIS	178	31.612	4.415	30.793	1.00	13.39	MTGL
ATOM	1385	CE1	HIS	178	30.714	4.020	31.679	1.00	14.18	MTGL
ATOM	1386	NE2	HIS	178	29.636	4.770	31.543	1.00	13.19	MTGL
ATOM	1387	C	HIS	178	31.232	8.354	29.850	1.00	16.83	MTGL
ATOM	1388	O	HIS	178	32.210	8.605	30.553	1.00	16.59	MTGL
ATOM	1389	N	LEU	179	29.997	8.757	30.138	1.00	17.26	MTGL
ATOM	1390	CA	LEU	179	29.670	9.539	31.329	1.00	18.11	MTGL
ATOM	1391	CB	LEU	179	29.014	10.866	30.925	1.00	18.73	MTGL

Fig. 1 cont.

ATOM	1392	CG	LEU	179	29.877	12.128	30.808	1.00	20.65	MTGL
ATOM	1393	CD1	LEU	179	31.265	11.812	30.272	1.00	19.45	MTGL
ATOM	1394	CD2	LEU	179	29.150	13.130	29.923	1.00	20.83	MTGL
ATOM	1395	C	LEU	179	28.693	8.732	32.186	1.00	18.96	MTGL
ATOM	1396	O	LEU	179	27.947	7.899	31.668	1.00	19.30	MTGL
ATOM	1397	N	ASP	180	28.693	8.974	33.493	1.00	18.24	MTGL
ATOM	1398	CA	ASP	180	27.780	8.267	34.385	1.00	18.02	MTGL
ATOM	1399	CB	ASP	180	28.377	8.171	35.795	1.00	17.69	MTGL
ATOM	1400	CG	ASP	180	28.398	9.505	36.518	1.00	19.25	MTGL
ATOM	1401	OD1	ASP	180	28.702	10.538	35.884	1.00	19.57	MTGL
ATOM	1402	OD2	ASP	180	28.117	9.512	37.734	1.00	20.92	MTGL
ATOM	1403	C	ASP	180	26.453	9.020	34.430	1.00	18.13	MTGL
ATOM	1404	O	ASP	180	26.268	9.995	33.708	1.00	17.92	MTGL
ATOM	1405	N	ASN	181	25.533	8.546	35.266	1.00	19.02	MTGL
ATOM	1406	CA	ASN	181	24.219	9.165	35.439	1.00	19.13	MTGL
ATOM	1407	CB	ASN	181	24.337	10.360	36.393	1.00	19.61	MTGL
ATOM	1408	CG	ASN	181	24.840	9.959	37.776	1.00	20.81	MTGL
ATOM	1409	OD1	ASN	181	24.561	8.857	38.259	1.00	20.36	MTGL
ATOM	1410	ND2	ASN	181	25.567	10.862	38.427	1.00	21.46	MTGL
ATOM	1411	C	ASN	181	23.541	9.604	34.135	1.00	19.21	MTGL
ATOM	1412	O	ASN	181	23.277	10.791	33.925	1.00	18.32	MTGL
ATOM	1413	N	GLY	182	23.238	8.635	33.276	1.00	18.94	MTGL
ATOM	1414	CA	GLY	182	22.610	8.937	32.003	1.00	18.55	MTGL
ATOM	1415	C	GLY	182	21.309	9.704	32.101	1.00	18.91	MTGL
ATOM	1416	O	GLY	182	20.952	10.428	31.179	1.00	18.95	MTGL
ATOM	1417	N	TRP	183	20.609	9.546	33.219	1.00	19.65	MTGL
ATOM	1418	CA	TRP	183	19.332	10.213	33.459	1.00	19.57	MTGL
ATOM	1419	CB	TRP	183	18.643	9.588	34.671	1.00	20.28	MTGL
ATOM	1420	CG	TRP	183	19.515	9.586	35.904	1.00	21.43	MTGL
ATOM	1421	CD2	TRP	183	19.671	10.653	36.856	1.00	21.48	MTGL
ATOM	1422	CE2	TRP	183	20.614	10.222	37.816	1.00	21.25	MTGL
ATOM	1423	CE3	TRP	183	19.103	11.931	36.989	1.00	21.53	MTGL
ATOM	1424	CD1	TRP	183	20.348	8.585	36.316	1.00	20.88	MTGL
ATOM	1425	NE1	TRP	183	21.011	8.959	37.463	1.00	21.48	MTGL
ATOM	1426	CZ2	TRP	183	21.010	11.024	38.896	1.00	22.46	MTGL
ATOM	1427	CZ3	TRP	183	19.497	12.732	38.065	1.00	21.36	MTGL
ATOM	1428	CH2	TRP	183	20.440	12.272	39.004	1.00	21.87	MTGL
ATOM	1429	C	TRP	183	19.477	11.705	33.724	1.00	20.04	MTGL
ATOM	1430	O	TRP	183	18.506	12.457	33.613	1.00	19.18	MTGL
ATOM	1431	N	ASP	184	20.686	12.126	34.083	1.00	20.76	MTGL
ATOM	1432	CA	ASP	184	20.957	13.522	34.417	1.00	20.14	MTGL
ATOM	1433	CB	ASP	184	22.085	13.581	35.455	1.00	21.31	MTGL
ATOM	1434	CG	ASP	184	22.327	14.986	35.988	1.00	24.62	MTGL
ATOM	1435	OD1	ASP	184	21.643	15.936	35.540	1.00	24.90	MTGL
ATOM	1436	OD2	ASP	184	23.210	15.138	36.859	1.00	25.79	MTGL
ATOM	1437	C	ASP	184	21.312	14.374	33.201	1.00	20.22	MTGL
ATOM	1438	O	ASP	184	22.487	14.584	32.899	1.00	19.35	MTGL
ATOM	1439	N	TRP	185	20.289	14.879	32.518	1.00	19.30	MTGL
ATOM	1440	CA	TRP	185	20.498	15.704	31.333	1.00	19.09	MTGL
ATOM	1441	CB	TRP	185	19.148	16.149	30.753	1.00	18.81	MTGL
ATOM	1442	CG	TRP	185	19.267	17.255	29.746	1.00	18.32	MTGL
ATOM	1443	CD2	TRP	185	20.044	17.245	28.541	1.00	18.10	MTGL
ATOM	1444	CE2	TRP	185	19.889	18.509	27.933	1.00	18.68	MTGL
ATOM	1445	CE3	TRP	185	20.856	16.290	27.917	1.00	18.54	MTGL
ATOM	1446	CD1	TRP	185	18.686	18.491	29.814	1.00	18.71	MTGL
ATOM	1447	NE1	TRP	185	19.057	19.250	28.730	1.00	18.49	MTGL
ATOM	1448	CZ2	TRP	185	20.518	18.845	26.732	1.00	19.18	MTGL
ATOM	1449	CZ3	TRP	185	21.484	16.626	26.722	1.00	18.13	MTGL

Fig. 1 cont.

ATOM	1450	CH2	TRP	185	21.311	17.891	26.144	1.00	19.60	MTGL
ATOM	1451	C	TRP	185	21.360	16.931	31.626	1.00	18.76	MTGL
ATOM	1452	O	TRP	185	22.271	17.256	30.866	1.00	17.61	MTGL
ATOM	1453	N	GLY	186	21.068	17.612	32.731	1.00	19.33	MTGL
ATOM	1454	CA	GLY	186	21.834	18.797	33.081	1.00	19.04	MTGL
ATOM	1455	C	GLY	186	23.336	18.565	33.066	1.00	19.17	MTGL
ATOM	1456	O	GLY	186	24.098	19.353	32.505	1.00	19.02	MTGL
ATOM	1457	N	THR	187	23.772	17.473	33.677	1.00	19.36	MTGL
ATOM	1458	CA	THR	187	25.192	17.172	33.718	1.00	20.31	MTGL
ATOM	1459	CB	THR	187	25.482	16.098	34.773	1.00	21.41	MTGL
ATOM	1460	OG1	THR	187	25.114	16.609	36.059	1.00	21.37	MTGL
ATOM	1461	CG2	THR	187	26.964	15.735	34.781	1.00	23.08	MTGL
ATOM	1462	C	THR	187	25.731	16.745	32.359	1.00	19.27	MTGL
ATOM	1463	O	THR	187	26.815	17.166	31.965	1.00	19.21	MTGL
ATOM	1464	N	GLN	188	24.980	15.916	31.637	1.00	19.95	MTGL
ATOM	1465	CA	GLN	188	25.420	15.479	30.312	1.00	19.24	MTGL
ATOM	1466	CB	GLN	188	24.356	14.602	29.638	1.00	19.13	MTGL
ATOM	1467	CG	GLN	188	24.033	13.278	30.329	1.00	18.75	MTGL
ATOM	1468	CD	GLN	188	25.203	12.299	30.339	1.00	18.38	MTGL
ATOM	1469	OE1	GLN	188	25.874	12.099	29.328	1.00	18.47	MTGL
ATOM	1470	NE2	GLN	188	25.435	11.675	31.483	1.00	16.34	MTGL
ATOM	1471	C	GLN	188	25.655	16.714	29.437	1.00	19.43	MTGL
ATOM	1472	O	GLN	188	26.695	16.850	28.792	1.00	18.38	MTGL
ATOM	1473	N	ASN	189	24.673	17.612	29.429	1.00	20.01	MTGL
ATOM	1474	CA	ASN	189	24.733	18.830	28.625	1.00	20.84	MTGL
ATOM	1475	CB	ASN	189	23.392	19.568	28.722	1.00	22.61	MTGL
ATOM	1476	CG	ASN	189	23.323	20.781	27.813	1.00	24.36	MTGL
ATOM	1477	OD1	ASN	189	23.788	20.744	26.674	1.00	24.74	MTGL
ATOM	1478	ND2	ASN	189	22.725	21.860	28.310	1.00	24.46	MTGL
ATOM	1479	C	ASN	189	25.878	19.746	29.050	1.00	21.20	MTGL
ATOM	1480	O	ASN	189	26.622	20.267	28.214	1.00	20.76	MTGL
ATOM	1481	N	TRP	190	26.015	19.935	30.356	1.00	21.74	MTGL
ATOM	1482	CA	TRP	190	27.073	20.770	30.917	1.00	22.16	MTGL
ATOM	1483	CB	TRP	190	26.959	20.758	32.442	1.00	23.20	MTGL
ATOM	1484	CG	TRP	190	28.143	21.315	33.192	1.00	25.19	MTGL
ATOM	1485	CD2	TRP	190	29.121	20.563	33.925	1.00	25.40	MTGL
ATOM	1486	CE2	TRP	190	30.015	21.491	34.505	1.00	25.48	MTGL
ATOM	1487	CE3	TRP	190	29.336	19.194	34.137	1.00	25.81	MTGL
ATOM	1488	CD1	TRP	190	28.474	22.632	33.355	1.00	24.81	MTGL
ATOM	1489	NE1	TRP	190	29.595	22.744	34.146	1.00	26.35	MTGL
ATOM	1490	CZ2	TRP	190	31.098	21.095	35.298	1.00	26.43	MTGL
ATOM	1491	CZ3	TRP	190	30.420	18.800	34.925	1.00	26.45	MTGL
ATOM	1492	CH2	TRP	190	31.288	19.750	35.490	1.00	25.29	MTGL
ATOM	1493	C	TRP	190	28.451	20.252	30.493	1.00	21.86	MTGL
ATOM	1494	O	TRP	190	29.322	21.023	30.081	1.00	21.57	MTGL
ATOM	1495	N	TRP	191	28.637	18.939	30.586	1.00	20.42	MTGL
ATOM	1496	CA	TRP	191	29.915	18.325	30.245	1.00	19.96	MTGL
ATOM	1497	CB	TRP	191	29.902	16.846	30.631	1.00	18.89	MTGL
ATOM	1498	CG	TRP	191	31.272	16.231	30.703	1.00	18.14	MTGL
ATOM	1499	CD2	TRP	191	32.017	15.658	29.621	1.00	17.74	MTGL
ATOM	1500	CE2	TRP	191	33.244	15.201	30.154	1.00	17.14	MTGL
ATOM	1501	CE3	TRP	191	31.767	15.481	28.253	1.00	17.05	MTGL
ATOM	1502	CD1	TRP	191	32.058	16.108	31.815	1.00	18.47	MTGL
ATOM	1503	NE1	TRP	191	33.241	15.489	31.494	1.00	16.67	MTGL
ATOM	1504	CZ2	TRP	191	34.221	14.583	29.366	1.00	16.52	MTGL
ATOM	1505	CZ3	TRP	191	32.739	14.862	27.468	1.00	15.97	MTGL
ATOM	1506	CH2	TRP	191	33.950	14.420	28.030	1.00	16.29	MTGL
ATOM	1507	C	TRP	191	30.293	18.455	28.770	1.00	19.44	MTGL

Fig. 1 cont.

ATOM	1508	O	TRP	191	31.342	19.019	28.436	1.00	18.48	MTGL
ATOM	1509	N	TYR	192	29.447	17.921	27.893	1.00	19.02	MTGL
ATOM	1510	CA	TYR	192	29.707	17.961	26.455	1.00	18.88	MTGL
ATOM	1511	CB	TYR	192	28.629	17.174	25.702	1.00	18.06	MTGL
ATOM	1512	CG	TYR	192	28.820	15.670	25.779	1.00	17.74	MTGL
ATOM	1513	CD1	TYR	192	29.890	15.048	25.126	1.00	17.96	MTGL
ATOM	1514	CE1	TYR	192	30.069	13.671	25.189	1.00	18.35	MTGL
ATOM	1515	CD2	TYR	192	27.935	14.870	26.502	1.00	16.89	MTGL
ATOM	1516	CE2	TYR	192	28.107	13.487	26.574	1.00	17.96	MTGL
ATOM	1517	CZ	TYR	192	29.172	12.895	25.917	1.00	18.14	MTGL
ATOM	1518	OH	TYR	192	29.340	11.530	25.986	1.00	19.50	MTGL
ATOM	1519	C	TYR	192	29.810	19.378	25.895	1.00	19.64	MTGL
ATOM	1520	O	TYR	192	30.661	19.651	25.047	1.00	17.67	MTGL
ATOM	1521	N	THR	193	28.956	20.280	26.373	1.00	20.13	MTGL
ATOM	1522	CA	THR	193	28.988	21.658	25.904	1.00	21.63	MTGL
ATOM	1523	CB	THR	193	27.884	22.504	26.569	1.00	21.95	MTGL
ATOM	1524	OG1	THR	193	26.600	21.990	26.195	1.00	23.39	MTGL
ATOM	1525	CG2	THR	193	27.978	23.956	26.114	1.00	23.15	MTGL
ATOM	1526	C	THR	193	30.346	22.306	26.189	1.00	21.54	MTGL
ATOM	1527	O	THR	193	30.978	22.863	25.291	1.00	21.18	MTGL
ATOM	1528	N	ASN	194	30.804	22.218	27.434	1.00	21.85	MTGL
ATOM	1529	CA	ASN	194	32.084	22.816	27.800	1.00	22.13	MTGL
ATOM	1530	CB	ASN	194	32.243	22.833	29.318	1.00	23.00	MTGL
ATOM	1531	CG	ASN	194	31.437	23.944	29.968	1.00	24.26	MTGL
ATOM	1532	OD1	ASN	194	31.675	25.123	29.709	1.00	25.08	MTGL
ATOM	1533	ND2	ASN	194	30.478	23.573	30.810	1.00	23.61	MTGL
ATOM	1534	C	ASN	194	33.292	22.146	27.156	1.00	21.45	MTGL
ATOM	1535	O	ASN	194	34.266	22.813	26.815	1.00	21.18	MTGL
ATOM	1536	N	VAL	195	33.236	20.831	26.986	1.00	21.36	MTGL
ATOM	1537	CA	VAL	195	34.346	20.123	26.362	1.00	20.65	MTGL
ATOM	1538	CB	VAL	195	34.187	18.590	26.503	1.00	20.76	MTGL
ATOM	1539	CG1	VAL	195	35.165	17.871	25.583	1.00	19.43	MTGL
ATOM	1540	CG2	VAL	195	34.429	18.179	27.947	1.00	20.62	MTGL
ATOM	1541	C	VAL	195	34.453	20.475	24.879	1.00	21.44	MTGL
ATOM	1542	O	VAL	195	35.540	20.792	24.385	1.00	20.78	MTGL
ATOM	1543	N	LEU	196	33.323	20.429	24.178	1.00	21.29	MTGL
ATOM	1544	CA	LEU	196	33.300	20.712	22.746	1.00	23.23	MTGL
ATOM	1545	CB	LEU	196	31.953	20.285	22.150	1.00	22.71	MTGL
ATOM	1546	CG	LEU	196	31.703	18.772	22.118	1.00	24.14	MTGL
ATOM	1547	CD1	LEU	196	30.276	18.477	21.657	1.00	22.72	MTGL
ATOM	1548	CD2	LEU	196	32.720	18.115	21.187	1.00	23.15	MTGL
ATOM	1549	C	LEU	196	33.589	22.158	22.354	1.00	24.05	MTGL
ATOM	1550	O	LEU	196	34.054	22.413	21.250	1.00	24.38	MTGL
ATOM	1551	N	LYS	197	33.326	23.104	23.248	1.00	25.84	MTGL
ATOM	1552	CA	LYS	197	33.562	24.506	22.919	1.00	27.64	MTGL
ATOM	1553	CB	LYS	197	32.753	25.413	23.850	1.00	29.58	MTGL
ATOM	1554	CG	LYS	197	33.282	25.505	25.268	1.00	32.86	MTGL
ATOM	1555	CD	LYS	197	32.239	26.101	26.207	1.00	35.16	MTGL
ATOM	1556	CE	LYS	197	31.742	27.456	25.726	1.00	37.48	MTGL
ATOM	1557	NZ	LYS	197	30.672	28.001	26.617	1.00	39.55	MTGL
ATOM	1558	C	LYS	197	35.038	24.897	22.956	1.00	27.59	MTGL
ATOM	1559	O	LYS	197	35.397	26.010	22.577	1.00	27.09	MTGL
ATOM	1560	N	GLN	198	35.896	23.980	23.395	1.00	27.10	MTGL
ATOM	1561	CA	GLN	198	37.323	24.271	23.459	1.00	26.85	MTGL
ATOM	1562	CB	GLN	198	38.053	23.202	24.274	1.00	26.22	MTGL
ATOM	1563	CG	GLN	198	37.608	23.127	25.718	1.00	24.93	MTGL
ATOM	1564	CD	GLN	198	37.637	24.480	26.400	1.00	25.72	MTGL
ATOM	1565	OE1	GLN	198	38.667	25.152	26.432	1.00	25.49	MTGL

Fig. 1 cont.

ATOM	1566	NE2	GLN	198	36.501	24.886	26.950	1.00	24.69	MTGL
ATOM	1567	C	GLN	198	37.953	24.381	22.071	1.00	27.46	MTGL
ATOM	1568	O	GLN	198	38.937	25.097	21.885	1.00	27.60	MTGL
ATOM	1569	N	GLY	199	37.401	23.664	21.101	1.00	27.40	MTGL
ATOM	1570	CA	GLY	199	37.941	23.738	19.757	1.00	28.72	MTGL
ATOM	1571	C	GLY	199	39.002	22.713	19.397	1.00	29.03	MTGL
ATOM	1572	O	GLY	199	39.487	22.711	18.269	1.00	30.82	MTGL
ATOM	1573	N	THR	200	39.382	21.852	20.337	1.00	27.35	MTGL
ATOM	1574	CA	THR	200	40.377	20.823	20.041	1.00	26.65	MTGL
ATOM	1575	CB	THR	200	41.335	20.596	21.230	1.00	26.55	MTGL
ATOM	1576	OG1	THR	200	40.579	20.447	22.438	1.00	27.05	MTGL
ATOM	1577	CG2	THR	200	42.297	21.780	21.366	1.00	26.96	MTGL
ATOM	1578	C	THR	200	39.633	19.532	19.705	1.00	25.68	MTGL
ATOM	1579	O	THR	200	39.665	19.072	18.569	1.00	25.00	MTGL
ATOM	1580	N	LEU	201	38.960	18.947	20.690	1.00	25.02	MTGL
ATOM	1581	CA	LEU	201	38.180	17.745	20.428	1.00	24.16	MTGL
ATOM	1582	CB	LEU	201	37.701	17.105	21.734	1.00	23.23	MTGL
ATOM	1583	CG	LEU	201	36.814	15.867	21.556	1.00	23.41	MTGL
ATOM	1584	CD1	LEU	201	37.674	14.680	21.136	1.00	22.70	MTGL
ATOM	1585	CD2	LEU	201	36.099	15.552	22.852	1.00	23.70	MTGL
ATOM	1586	C	LEU	201	36.967	18.221	19.628	1.00	23.81	MTGL
ATOM	1587	O	LEU	201	36.280	19.152	20.041	1.00	22.98	MTGL
ATOM	1588	N	GLU	202	36.710	17.608	18.480	1.00	23.89	MTGL
ATOM	1589	CA	GLU	202	35.554	18.002	17.672	1.00	25.20	MTGL
ATOM	1590	CB	GLU	202	35.962	18.281	16.227	1.00	26.99	MTGL
ATOM	1591	CG	GLU	202	37.142	19.208	16.054	1.00	30.89	MTGL
ATOM	1592	CD	GLU	202	37.380	19.539	14.596	1.00	33.28	MTGL
ATOM	1593	OE1	GLU	202	36.601	20.338	14.034	1.00	35.02	MTGL
ATOM	1594	OE2	GLU	202	38.333	18.989	14.004	1.00	34.29	MTGL
ATOM	1595	C	GLU	202	34.545	16.863	17.667	1.00	24.61	MTGL
ATOM	1596	O	GLU	202	34.886	15.725	17.990	1.00	23.46	MTGL
ATOM	1597	N	LEU	203	33.311	17.169	17.286	1.00	24.45	MTGL
ATOM	1598	CA	LEU	203	32.267	16.157	17.222	1.00	25.47	MTGL
ATOM	1599	CB	LEU	203	30.959	16.768	16.721	1.00	26.23	MTGL
ATOM	1600	CG	LEU	203	30.009	17.289	17.794	1.00	27.61	MTGL
ATOM	1601	CD1	LEU	203	28.830	17.970	17.126	1.00	28.79	MTGL
ATOM	1602	CD2	LEU	203	29.532	16.139	18.672	1.00	27.38	MTGL
ATOM	1603	C	LEU	203	32.666	15.007	16.305	1.00	25.18	MTGL
ATOM	1604	O	LEU	203	32.307	13.857	16.555	1.00	25.60	MTGL
ATOM	1605	N	SER	204	33.411	15.318	15.249	1.00	23.52	MTGL
ATOM	1606	CA	SER	204	33.841	14.295	14.305	1.00	23.46	MTGL
ATOM	1607	CB	SER	204	34.367	14.941	13.016	1.00	24.47	MTGL
ATOM	1608	OG	SER	204	35.559	15.677	13.253	1.00	23.17	MTGL
ATOM	1609	C	SER	204	34.918	13.379	14.677	1.00	22.84	MTGL
ATOM	1610	O	SER	204	35.235	12.353	14.278	1.00	22.80	MTGL
ATOM	1611	N	ASP	205	35.482	13.742	16.027	1.00	21.73	MTGL
ATOM	1612	CA	ASP	205	36.529	12.920	16.626	1.00	21.47	MTGL
ATOM	1613	CB	ASP	205	37.369	13.735	17.616	1.00	21.78	MTGL
ATOM	1614	CG	ASP	205	38.284	14.737	16.925	1.00	23.69	MTGL
ATOM	1615	OD1	ASP	205	38.859	14.388	15.870	1.00	23.46	MTGL
ATOM	1616	OD2	ASP	205	38.442	15.866	17.446	1.00	23.01	MTGL
ATOM	1617	C	ASP	205	36.020	11.653	17.310	1.00	20.42	MTGL
ATOM	1618	O	ASP	205	36.795	10.727	17.545	1.00	20.47	MTGL
ATOM	1619	N	PHE	206	34.736	11.609	17.650	1.00	19.52	MTGL
ATOM	1620	CA	PHE	206	34.183	10.408	18.275	1.00	20.33	MTGL
ATOM	1621	CB	PHE	206	34.060	10.565	19.801	1.00	18.69	MTGL
ATOM	1622	CG	PHE	206	33.098	11.626	20.244	1.00	18.95	MTGL
ATOM	1623	CD1	PHE	206	33.403	12.974	20.083	1.00	18.40	MTGL

Fig. 1 cont.

ATOM	1624	CD2	PHE	206	31.899	11.275	20.861	1.00	18.16	MTGL
ATOM	1625	CE1	PHE	206	32.529	13.959	20.534	1.00	19.01	MTGL
ATOM	1626	CE2	PHE	206	31.015	12.253	21.316	1.00	19.53	MTGL
ATOM	1627	CZ	PHE	206	31.331	13.601	21.153	1.00	18.89	MTGL
ATOM	1628	C	PHE	206	32.850	10.031	17.642	1.00	20.83	MTGL
ATOM	1629	O	PHE	206	32.267	10.825	16.901	1.00	20.91	MTGL
ATOM	1630	N	ASP	207	32.365	8.827	17.937	1.00	20.94	MTGL
ATOM	1631	CA	ASP	207	31.134	8.331	17.322	1.00	21.05	MTGL
ATOM	1632	CB	ASP	207	31.470	7.084	16.500	1.00	21.79	MTGL
ATOM	1633	CG	ASP	207	32.766	7.235	15.730	1.00	22.83	MTGL
ATOM	1634	OD1	ASP	207	32.811	8.093	14.826	1.00	22.13	MTGL
ATOM	1635	OD2	ASP	207	33.739	6.506	16.036	1.00	21.38	MTGL
ATOM	1636	C	ASP	207	29.978	7.990	18.256	1.00	20.40	MTGL
ATOM	1637	O	ASP	207	28.813	8.022	17.847	1.00	20.09	MTGL
ATOM	1638	N	MET	208	30.286	7.660	19.502	1.00	19.17	MTGL
ATOM	1639	CA	MET	208	29.236	7.281	20.431	1.00	17.84	MTGL
ATOM	1640	CB	MET	208	29.282	5.771	20.688	1.00	17.36	MTGL
ATOM	1641	CG	MET	208	29.319	4.900	19.455	1.00	17.72	MTGL
ATOM	1642	SD	MET	208	29.434	3.141	19.906	1.00	19.72	MTGL
ATOM	1643	CE	MET	208	27.745	2.786	20.301	1.00	18.67	MTGL
ATOM	1644	C	MET	208	29.293	7.979	21.775	1.00	17.33	MTGL
ATOM	1645	O	MET	208	30.351	8.410	22.232	1.00	16.75	MTGL
ATOM	1646	N	MET	209	28.125	8.080	22.397	1.00	16.30	MTGL
ATOM	1647	CA	MET	209	27.991	8.653	23.722	1.00	17.25	MTGL
ATOM	1648	CB	MET	209	27.037	9.852	23.730	1.00	16.86	MTGL
ATOM	1649	CG	MET	209	27.525	11.048	22.926	1.00	17.20	MTGL
ATOM	1650	SD	MET	209	26.439	12.511	23.096	1.00	15.98	MTGL
ATOM	1651	CE	MET	209	27.636	13.808	22.762	1.00	17.32	MTGL
ATOM	1652	C	MET	209	27.405	7.529	24.557	1.00	16.92	MTGL
ATOM	1653	O	MET	209	26.311	7.033	24.273	1.00	16.52	MTGL
ATOM	1654	N	GLY	210	28.153	7.103	25.565	1.00	16.49	MTGL
ATOM	1655	CA	GLY	210	27.675	6.038	26.423	1.00	16.81	MTGL
ATOM	1656	C	GLY	210	27.361	6.585	27.797	1.00	16.14	MTGL
ATOM	1657	O	GLY	210	27.991	7.537	28.257	1.00	15.66	MTGL
ATOM	1658	N	VAL	211	26.370	5.998	28.450	1.00	16.46	MTGL
ATOM	1659	CA	VAL	211	25.999	6.431	29.784	1.00	15.55	MTGL
ATOM	1660	CB	VAL	211	24.691	7.247	29.773	1.00	15.54	MTGL
ATOM	1661	CG1	VAL	211	24.824	8.449	28.839	1.00	16.27	MTGL
ATOM	1662	CG2	VAL	211	23.525	6.354	29.353	1.00	14.06	MTGL
ATOM	1663	C	VAL	211	25.781	5.236	30.700	1.00	16.00	MTGL
ATOM	1664	O	VAL	211	25.418	4.148	30.243	1.00	15.69	MTGL
ATOM	1665	N	SER	212	26.013	5.445	31.991	1.00	15.22	MTGL
ATOM	1666	CA	SER	212	25.766	4.414	32.983	1.00	15.39	MTGL
ATOM	1667	CB	SER	212	26.741	4.537	34.158	1.00	15.48	MTGL
ATOM	1668	OG	SER	212	28.083	4.327	33.748	1.00	16.02	MTGL
ATOM	1669	C	SER	212	24.346	4.707	33.469	1.00	15.93	MTGL
ATOM	1670	O	SER	212	23.922	5.863	33.498	1.00	16.20	MTGL
ATOM	1671	N	PHE	213	23.599	3.670	33.821	1.00	15.04	MTGL
ATOM	1672	CA	PHE	213	22.248	3.866	34.323	1.00	15.18	MTGL
ATOM	1673	CB	PHE	213	21.218	3.762	33.191	1.00	14.75	MTGL
ATOM	1674	CG	PHE	213	19.801	3.982	33.647	1.00	14.40	MTGL
ATOM	1675	CD1	PHE	213	19.383	5.238	34.071	1.00	15.35	MTGL
ATOM	1676	CD2	PHE	213	18.897	2.924	33.694	1.00	14.80	MTGL
ATOM	1677	CE1	PHE	213	18.079	5.441	34.542	1.00	15.59	MTGL
ATOM	1678	CE2	PHE	213	17.594	3.113	34.160	1.00	15.14	MTGL
ATOM	1679	CZ	PHE	213	17.185	4.376	34.586	1.00	15.11	MTGL
ATOM	1680	C	PHE	213	21.956	2.821	35.388	1.00	16.01	MTGL
ATOM	1681	O	PHE	213	21.757	1.646	35.078	1.00	16.44	MTGL

Fig. 1 cont.

ATOM	1682	N	TYR	214	21.954	3.258	36.644	1.00	16.44	MTGL
ATOM	1683	CA	TYR	214	21.691	2.382	37.782	1.00	16.37	MTGL
ATOM	1684	CB	TYR	214	22.917	2.332	38.700	1.00	16.76	MTGL
ATOM	1685	CG	TYR	214	24.097	1.562	38.131	1.00	16.18	MTGL
ATOM	1686	CD1	TYR	214	24.114	0.168	38.139	1.00	16.62	MTGL
ATOM	1687	CE1	TYR	214	25.201	-0.544	37.637	1.00	17.99	MTGL
ATOM	1688	CD2	TYR	214	25.199	2.228	37.599	1.00	16.40	MTGL
ATOM	1689	CE2	TYR	214	26.295	1.524	37.093	1.00	16.27	MTGL
ATOM	1690	CZ	TYR	214	26.288	0.142	37.118	1.00	16.37	MTGL
ATOM	1691	OH	TYR	214	27.375	-0.556	36.648	1.00	17.15	MTGL
ATOM	1692	C	TYR	214	20.479	2.904	38.554	1.00	17.45	MTGL
ATOM	1693	O	TYR	214	20.246	4.111	38.632	1.00	17.08	MTGL
ATOM	1694	N	PRO	215	19.691	1.997	39.140	1.00	17.07	MTGL
ATOM	1695	CD	PRO	215	19.704	0.537	38.916	1.00	17.36	MTGL
ATOM	1696	CA	PRO	215	18.506	2.395	39.896	1.00	17.11	MTGL
ATOM	1697	CB	PRO	215	17.547	1.247	39.619	1.00	17.64	MTGL
ATOM	1698	CG	PRO	215	18.481	0.060	39.693	1.00	17.35	MTGL
ATOM	1699	C	PRO	215	18.728	2.576	41.395	1.00	18.08	MTGL
ATOM	1700	O	PRO	215	17.847	3.078	42.092	1.00	17.47	MTGL
ATOM	1701	N	PHE	216	19.896	2.180	41.891	1.00	18.78	MTGL
ATOM	1702	CA	PHE	216	20.152	2.251	43.328	1.00	19.20	MTGL
ATOM	1703	CB	PHE	216	20.530	0.851	43.836	1.00	17.80	MTGL
ATOM	1704	CG	PHE	216	21.456	0.095	42.915	1.00	18.00	MTGL
ATOM	1705	CD1	PHE	216	22.673	0.641	42.522	1.00	18.05	MTGL
ATOM	1706	CD2	PHE	216	21.117	-1.172	42.456	1.00	17.34	MTGL
ATOM	1707	CE1	PHE	216	23.543	-0.064	41.680	1.00	17.92	MTGL
ATOM	1708	CE2	PHE	216	21.981	-1.887	41.614	1.00	17.55	MTGL
ATOM	1709	CZ	PHE	216	23.194	-1.331	41.228	1.00	16.80	MTGL
ATOM	1710	C	PHE	216	21.145	3.276	43.872	1.00	19.84	MTGL
ATOM	1711	O	PHE	216	21.726	3.068	44.940	1.00	21.57	MTGL
ATOM	1712	N	TYR	217	21.346	4.379	43.161	1.00	19.60	MTGL
ATOM	1713	CA	TYR	217	22.251	5.419	43.647	1.00	20.50	MTGL
ATOM	1714	CB	TYR	217	23.468	5.575	42.732	1.00	20.09	MTGL
ATOM	1715	CG	TYR	217	24.398	4.382	42.724	1.00	21.44	MTGL
ATOM	1716	CD1	TYR	217	24.956	3.895	43.909	1.00	21.17	MTGL
ATOM	1717	CE1	TYR	217	25.815	2.797	43.902	1.00	21.86	MTGL
ATOM	1718	CD2	TYR	217	24.721	3.739	41.529	1.00	20.83	MTGL
ATOM	1719	CE2	TYR	217	25.577	2.642	41.511	1.00	21.46	MTGL
ATOM	1720	CZ	TYR	217	26.120	2.174	42.697	1.00	21.33	MTGL
ATOM	1721	OH	TYR	217	26.960	1.087	42.672	1.00	20.10	MTGL
ATOM	1722	C	TYR	217	21.520	6.752	43.727	1.00	21.29	MTGL
ATOM	1723	O	TYR	217	22.127	7.778	44.026	1.00	21.40	MTGL
ATOM	1724	N	SER	218	20.218	6.725	43.450	1.00	21.47	MTGL
ATOM	1725	CA	SER	218	19.387	7.926	43.475	1.00	22.44	MTGL
ATOM	1726	CB	SER	218	20.043	9.050	42.677	1.00	23.02	MTGL
ATOM	1727	OG	SER	218	19.128	10.108	42.463	1.00	23.85	MTGL
ATOM	1728	C	SER	218	18.012	7.661	42.888	1.00	22.12	MTGL
ATOM	1729	O	SER	218	17.888	7.058	41.821	1.00	22.86	MTGL
ATOM	1730	N	SER	219	16.980	8.128	43.577	1.00	21.77	MTGL
ATOM	1731	CA	SER	219	15.615	7.938	43.111	1.00	22.44	MTGL
ATOM	1732	CB	SER	219	14.624	8.308	44.216	1.00	22.46	MTGL
ATOM	1733	OG	SER	219	14.793	9.658	44.607	1.00	22.44	MTGL
ATOM	1734	C	SER	219	15.333	8.782	41.867	1.00	22.56	MTGL
ATOM	1735	O	SER	219	14.282	8.646	41.247	1.00	23.34	MTGL
ATOM	1736	N	SER	220	16.267	9.653	41.503	1.00	22.13	MTGL
ATOM	1737	CA	SER	220	16.088	10.488	40.319	1.00	22.61	MTGL
ATOM	1738	CB	SER	220	17.037	11.691	40.358	1.00	23.25	MTGL
ATOM	1739	OG	SER	220	16.688	12.584	41.403	1.00	25.72	MTGL

Fig. 1 cont.

ATOM	1740	C	SER	220	16.330	9.704	39.032	1.00	22.26	MTGL
ATOM	1741	O	SER	220	16.025	10.187	37.942	1.00	22.75	MTGL
ATOM	1742	N	ALA	221	16.872	8.495	39.160	1.00	20.89	MTGL
ATOM	1743	CA	ALA	221	17.164	7.667	37.996	1.00	20.44	MTGL
ATOM	1744	CB	ALA	221	18.266	6.644	38.343	1.00	19.75	MTGL
ATOM	1745	C	ALA	221	15.933	6.949	37.439	1.00	20.80	MTGL
ATOM	1746	O	ALA	221	15.941	5.731	37.265	1.00	20.53	MTGL
ATOM	1747	N	THR	222	14.875	7.705	37.163	1.00	20.53	MTGL
ATOM	1748	CA	THR	222	13.651	7.134	36.607	1.00	20.82	MTGL
ATOM	1749	CB	THR	222	12.464	8.120	36.690	1.00	20.95	MTGL
ATOM	1750	OG1	THR	222	12.792	9.310	35.966	1.00	21.38	MTGL
ATOM	1751	CG2	THR	222	12.152	8.483	38.137	1.00	21.55	MTGL
ATOM	1752	C	THR	222	13.848	6.809	35.129	1.00	20.30	MTGL
ATOM	1753	O	THR	222	14.754	7.334	34.479	1.00	20.05	MTGL
ATOM	1754	N	LEU	223	12.990	5.947	34.598	1.00	20.97	MTGL
ATOM	1755	CA	LEU	223	13.060	5.583	33.190	1.00	20.57	MTGL
ATOM	1756	CB	LEU	223	12.116	4.412	32.894	1.00	21.05	MTGL
ATOM	1757	CG	LEU	223	12.455	3.097	33.612	1.00	22.20	MTGL
ATOM	1758	CD1	LEU	223	11.415	2.039	33.276	1.00	22.93	MTGL
ATOM	1759	CD2	LEU	223	13.841	2.629	33.195	1.00	21.13	MTGL
ATOM	1760	C	LEU	223	12.674	6.800	32.346	1.00	20.76	MTGL
ATOM	1761	O	LEU	223	13.214	7.009	31.258	1.00	19.94	MTGL
ATOM	1762	N	SER	224	11.741	7.607	32.852	1.00	20.13	MTGL
ATOM	1763	CA	SER	224	11.311	8.804	32.128	1.00	20.71	MTGL
ATOM	1764	CB	SER	224	10.096	9.448	32.812	1.00	21.29	MTGL
ATOM	1765	OG	SER	224	10.392	9.812	34.149	1.00	26.36	MTGL
ATOM	1766	C	SER	224	12.452	9.815	32.036	1.00	18.99	MTGL
ATOM	1767	O	SER	224	12.641	10.450	30.999	1.00	19.23	MTGL
ATOM	1768	N	ALA	225	13.214	9.967	33.115	1.00	18.09	MTGL
ATOM	1769	CA	ALA	225	14.333	10.901	33.093	1.00	17.82	MTGL
ATOM	1770	CB	ALA	225	14.928	11.057	34.492	1.00	17.28	MTGL
ATOM	1771	C	ALA	225	15.395	10.410	32.108	1.00	17.15	MTGL
ATOM	1772	O	ALA	225	16.018	11.208	31.410	1.00	18.25	MTGL
ATOM	1773	N	LEU	226	15.598	9.097	32.048	1.00	16.97	MTGL
ATOM	1774	CA	LEU	226	16.580	8.534	31.122	1.00	17.41	MTGL
ATOM	1775	CB	LEU	226	16.693	7.017	31.303	1.00	17.39	MTGL
ATOM	1776	CG	LEU	226	17.711	6.325	30.389	1.00	17.54	MTGL
ATOM	1777	CD1	LEU	226	19.109	6.852	30.679	1.00	17.23	MTGL
ATOM	1778	CD2	LEU	226	17.658	4.824	30.606	1.00	17.56	MTGL
ATOM	1779	C	LEU	226	16.126	8.839	29.696	1.00	17.60	MTGL
ATOM	1780	O	LEU	226	16.909	9.311	28.868	1.00	17.24	MTGL
ATOM	1781	N	LYS	227	14.854	8.566	29.423	1.00	17.18	MTGL
ATOM	1782	CA	LYS	227	14.277	8.811	28.105	1.00	18.16	MTGL
ATOM	1783	CB	LYS	227	12.780	8.488	28.120	1.00	18.24	MTGL
ATOM	1784	CG	LYS	227	12.007	8.984	26.890	1.00	18.81	MTGL
ATOM	1785	CD	LYS	227	12.540	8.394	25.590	1.00	17.63	MTGL
ATOM	1786	CE	LYS	227	11.629	8.737	24.411	1.00	18.20	MTGL
ATOM	1787	NZ	LYS	227	12.191	8.269	23.111	1.00	17.92	MTGL
ATOM	1788	C	LYS	227	14.476	10.258	27.668	1.00	18.40	MTGL
ATOM	1789	O	LYS	227	14.978	10.526	26.576	1.00	18.56	MTGL
ATOM	1790	N	SER	228	14.078	11.190	28.529	1.00	18.71	MTGL
ATOM	1791	CA	SER	228	14.209	12.610	28.225	1.00	18.63	MTGL
ATOM	1792	CB	SER	228	13.584	13.449	29.344	1.00	19.90	MTGL
ATOM	1793	OG	SER	228	13.763	14.835	29.096	1.00	20.80	MTGL
ATOM	1794	C	SER	228	15.662	13.022	28.024	1.00	18.30	MTGL
ATOM	1795	O	SER	228	15.973	13.778	27.106	1.00	18.71	MTGL
ATOM	1796	N	SER	229	16.553	12.525	28.880	1.00	17.99	MTGL
ATOM	1797	CA	SER	229	17.969	12.862	28.768	1.00	18.28	MTGL

Fig. 1 cont.

ATOM	1798	CB	SER	229	18.752	12.299	29.962	1.00	18.83	MTGL
ATOM	1799	OG	SER	229	20.127	12.641	29.867	1.00	17.92	MTGL
ATOM	1800	C	SER	229	18.577	12.339	27.463	1.00	18.05	MTGL
ATOM	1801	O	SER	229	19.251	13.076	26.744	1.00	18.70	MTGL
ATOM	1802	N	LEU	230	18.338	11.070	27.149	1.00	17.87	MTGL
ATOM	1803	CA	LEU	230	18.884	10.503	25.920	1.00	17.26	MTGL
ATOM	1804	CB	LEU	230	18.620	8.994	25.860	1.00	16.24	MTGL
ATOM	1805	CG	LEU	230	19.265	8.162	26.976	1.00	16.12	MTGL
ATOM	1806	CD1	LEU	230	19.069	6.676	26.671	1.00	16.29	MTGL
ATOM	1807	CD2	LEU	230	20.749	8.473	27.084	1.00	12.97	MTGL
ATOM	1808	C	LEU	230	18.299	11.204	24.689	1.00	17.08	MTGL
ATOM	1809	O	LEU	230	19.014	11.458	23.721	1.00	15.52	MTGL
ATOM	1810	N	ASP	231	17.006	11.525	24.728	1.00	18.20	MTGL
ATOM	1811	CA	ASP	231	16.380	12.223	23.604	1.00	18.97	MTGL
ATOM	1812	CB	ASP	231	14.896	12.494	23.878	1.00	20.35	MTGL
ATOM	1813	CG	ASP	231	13.985	11.337	23.455	1.00	20.69	MTGL
ATOM	1814	OD1	ASP	231	14.460	10.361	22.838	1.00	21.48	MTGL
ATOM	1815	OD2	ASP	231	12.775	11.418	23.738	1.00	20.71	MTGL
ATOM	1816	C	ASP	231	17.102	13.553	23.393	1.00	19.05	MTGL
ATOM	1817	O	ASP	231	17.423	13.927	22.265	1.00	20.05	MTGL
ATOM	1818	N	ASN	232	17.369	14.260	24.486	1.00	18.97	MTGL
ATOM	1819	CA	ASN	232	18.057	15.546	24.403	1.00	19.27	MTGL
ATOM	1820	CB	ASN	232	18.126	16.219	25.781	1.00	19.34	MTGL
ATOM	1821	CG	ASN	232	16.775	16.752	26.238	1.00	21.88	MTGL
ATOM	1822	OD1	ASN	232	15.911	17.054	25.420	1.00	23.78	MTGL
ATOM	1823	ND2	ASN	232	16.595	16.882	27.545	1.00	21.09	MTGL
ATOM	1824	C	ASN	232	19.459	15.397	23.834	1.00	19.42	MTGL
ATOM	1825	O	ASN	232	19.887	16.205	23.003	1.00	19.51	MTGL
ATOM	1826	N	MET	233	20.174	14.368	24.280	1.00	19.18	MTGL
ATOM	1827	CA	MET	233	21.533	14.124	23.803	1.00	19.15	MTGL
ATOM	1828	CB	MET	233	22.151	12.936	24.551	1.00	18.27	MTGL
ATOM	1829	CG	MET	233	22.433	13.191	26.029	1.00	19.33	MTGL
ATOM	1830	SD	MET	233	22.806	11.662	26.940	1.00	19.17	MTGL
ATOM	1831	CE	MET	233	24.330	11.165	26.125	1.00	17.20	MTGL
ATOM	1832	C	MET	233	21.510	13.833	22.305	1.00	19.80	MTGL
ATOM	1833	O	MET	233	22.356	14.314	21.547	1.00	19.41	MTGL
ATOM	1834	N	ALA	234	20.529	13.043	21.885	1.00	20.01	MTGL
ATOM	1835	CA	ALA	234	20.390	12.673	20.480	1.00	21.04	MTGL
ATOM	1836	CB	ALA	234	19.274	11.633	20.324	1.00	19.66	MTGL
ATOM	1837	C	ALA	234	20.111	13.879	19.583	1.00	21.48	MTGL
ATOM	1838	O	ALA	234	20.761	14.055	18.549	1.00	20.87	MTGL
ATOM	1839	N	LYS	235	19.156	14.715	19.985	1.00	22.48	MTGL
ATOM	1840	CA	LYS	235	18.804	15.881	19.176	1.00	24.12	MTGL
ATOM	1841	CB	LYS	235	17.507	16.515	19.681	1.00	26.52	MTGL
ATOM	1842	CG	LYS	235	17.053	17.695	18.835	1.00	33.00	MTGL
ATOM	1843	CD	LYS	235	15.744	18.274	19.331	1.00	36.39	MTGL
ATOM	1844	CE	LYS	235	15.288	19.436	18.451	1.00	40.33	MTGL
ATOM	1845	NZ	LYS	235	13.979	19.997	18.912	1.00	42.05	MTGL
ATOM	1846	C	LYS	235	19.900	16.937	19.145	1.00	22.78	MTGL
ATOM	1847	O	LYS	235	20.041	17.660	18.169	1.00	21.57	MTGL
ATOM	1848	N	THR	236	20.688	17.014	20.209	1.00	23.01	MTGL
ATOM	1849	CA	THR	236	21.753	18.004	20.280	1.00	22.42	MTGL
ATOM	1850	CB	THR	236	22.146	18.289	21.744	1.00	22.63	MTGL
ATOM	1851	OG1	THR	236	20.973	18.616	22.495	1.00	23.14	MTGL
ATOM	1852	CG2	THR	236	23.118	19.459	21.818	1.00	22.49	MTGL
ATOM	1853	C	THR	236	23.020	17.635	19.506	1.00	22.72	MTGL
ATOM	1854	O	THR	236	23.556	18.468	18.773	1.00	22.41	MTGL
ATOM	1855	N	TRP	237	23.495	16.398	19.655	1.00	21.45	MTGL

Fig. 1 cont.

ATOM	1856	CA	TRP	237	24.728	15.984	18.984	1.00	21.17	MTGL
ATOM	1857	CB	TRP	237	25.773	15.621	20.041	1.00	21.53	MTGL
ATOM	1858	CG	TRP	237	26.103	16.796	20.916	1.00	21.36	MTGL
ATOM	1859	CD2	TRP	237	25.684	17.004	22.270	1.00	20.90	MTGL
ATOM	1860	CE2	TRP	237	26.156	18.274	22.662	1.00	20.29	MTGL
ATOM	1861	CE3	TRP	237	24.957	16.237	23.191	1.00	20.64	MTGL
ATOM	1862	CD1	TRP	237	26.795	17.920	20.554	1.00	21.20	MTGL
ATOM	1863	NE1	TRP	237	26.827	18.811	21.595	1.00	19.36	MTGL
ATOM	1864	CZ2	TRP	237	25.919	18.799	23.935	1.00	20.39	MTGL
ATOM	1865	CZ3	TRP	237	24.724	16.760	24.458	1.00	20.25	MTGL
ATOM	1866	CH2	TRP	237	25.205	18.028	24.817	1.00	20.45	MTGL
ATOM	1867	C	TRP	237	24.600	14.868	17.941	1.00	21.19	MTGL
ATOM	1868	O	TRP	237	25.561	14.555	17.238	1.00	20.33	MTGL
ATOM	1869	N	ASN	238	23.414	14.274	17.865	0.50	21.58	MTGL
ATOM	1870	CA	ASN	238	23.119	13.212	16.908	0.50	21.97	MTGL
ATOM	1871	CB	ASN	238	22.847	13.829	15.534	0.50	23.20	MTGL
ATOM	1872	CG	ASN	238	21.696	14.822	15.560	0.50	24.82	MTGL
ATOM	1873	OD1	ASN	238	20.631	14.540	16.107	0.50	25.88	MTGL
ATOM	1874	ND2	ASN	238	21.904	15.989	14.960	0.50	26.50	MTGL
ATOM	1875	C	ASN	238	24.179	12.113	16.782	0.50	21.69	MTGL
ATOM	1876	O	ASN	238	24.564	11.730	15.678	0.50	21.51	MTGL
ATOM	1877	N	LYS	239	24.644	11.607	17.919	1.00	21.56	MTGL
ATOM	1878	CA	LYS	239	25.639	10.534	17.938	1.00	20.81	MTGL
ATOM	1879	CB	LYS	239	26.732	10.832	18.971	1.00	21.93	MTGL
ATOM	1880	CG	LYS	239	27.684	11.957	18.598	1.00	21.60	MTGL
ATOM	1881	CD	LYS	239	28.521	11.569	17.396	1.00	23.06	MTGL
ATOM	1882	CE	LYS	239	29.543	12.633	17.053	1.00	23.30	MTGL
ATOM	1883	NZ	LYS	239	30.266	12.280	15.800	1.00	22.03	MTGL
ATOM	1884	C	LYS	239	24.927	9.243	18.331	1.00	20.23	MTGL
ATOM	1885	O	LYS	239	23.814	9.287	18.856	1.00	19.43	MTGL
ATOM	1886	N	GLU	240	25.548	8.096	18.072	1.00	19.70	MTGL
ATOM	1887	CA	GLU	240	24.933	6.835	18.467	1.00	19.84	MTGL
ATOM	1888	CB	GLU	240	25.702	5.633	17.912	1.00	21.53	MTGL
ATOM	1889	CG	GLU	240	25.612	5.485	16.402	1.00	24.54	MTGL
ATOM	1890	CD	GLU	240	25.950	4.081	15.930	1.00	26.26	MTGL
ATOM	1891	OE1	GLU	240	26.984	3.532	16.366	1.00	27.61	MTGL
ATOM	1892	OE2	GLU	240	25.179	3.527	15.118	1.00	28.35	MTGL
ATOM	1893	C	GLU	240	24.972	6.823	19.985	1.00	18.12	MTGL
ATOM	1894	O	GLU	240	25.945	7.269	20.589	1.00	16.94	MTGL
ATOM	1895	N	ILE	241	23.910	6.320	20.598	1.00	17.17	MTGL
ATOM	1896	CA	ILE	241	23.816	6.290	22.049	1.00	17.75	MTGL
ATOM	1897	CB	ILE	241	22.639	7.161	22.509	1.00	18.47	MTGL
ATOM	1898	CG2	ILE	241	22.411	6.997	24.013	1.00	19.08	MTGL
ATOM	1899	CG1	ILE	241	22.918	8.617	22.126	1.00	17.74	MTGL
ATOM	1900	CD1	ILE	241	21.732	9.539	22.297	1.00	18.08	MTGL
ATOM	1901	C	ILE	241	23.651	4.894	22.625	1.00	17.68	MTGL
ATOM	1902	O	ILE	241	23.020	4.026	22.015	1.00	16.98	MTGL
ATOM	1903	N	ALA	242	24.219	4.683	23.809	1.00	17.80	MTGL
ATOM	1904	CA	ALA	242	24.115	3.389	24.465	1.00	17.48	MTGL
ATOM	1905	CB	ALA	242	25.170	2.433	23.906	1.00	16.79	MTGL
ATOM	1906	C	ALA	242	24.244	3.457	25.977	1.00	16.97	MTGL
ATOM	1907	O	ALA	242	24.966	4.291	26.520	1.00	16.47	MTGL
ATOM	1908	N	VAL	243	23.505	2.586	26.654	1.00	16.88	MTGL
ATOM	1909	CA	VAL	243	23.594	2.478	28.098	1.00	16.35	MTGL
ATOM	1910	CB	VAL	243	22.261	2.003	28.715	1.00	15.54	MTGL
ATOM	1911	CG1	VAL	243	22.470	1.580	30.159	1.00	16.43	MTGL
ATOM	1912	CG2	VAL	243	21.238	3.133	28.655	1.00	15.23	MTGL
ATOM	1913	C	VAL	243	24.667	1.396	28.212	1.00	16.01	MTGL

Fig. 1 cont.

ATOM	1914	O	VAL	243	24.424	0.243	27.856	1.00	16.07	MTGL
ATOM	1915	N	VAL	244	25.860	1.774	28.665	1.00	15.48	MTGL
ATOM	1916	CA	VAL	244	26.971	0.822	28.758	1.00	15.55	MTGL
ATOM	1917	CB	VAL	244	28.292	1.501	28.345	1.00	15.25	MTGL
ATOM	1918	CG1	VAL	244	28.167	2.024	26.922	1.00	15.71	MTGL
ATOM	1919	CG2	VAL	244	28.618	2.646	29.294	1.00	14.98	MTGL
ATOM	1920	C	VAL	244	27.163	0.125	30.097	1.00	15.27	MTGL
ATOM	1921	O	VAL	244	28.052	-0.710	30.244	1.00	16.53	MTGL
ATOM	1922	N	GLU	245	26.326	0.464	31.068	1.00	15.31	MTGL
ATOM	1923	CA	GLU	245	26.387	-0.145	32.391	1.00	15.54	MTGL
ATOM	1924	CB	GLU	245	27.390	0.581	33.301	1.00	15.71	MTGL
ATOM	1925	CG	GLU	245	28.833	0.193	33.105	1.00	17.89	MTGL
ATOM	1926	CD	GLU	245	29.738	0.777	34.177	1.00	19.37	MTGL
ATOM	1927	OE1	GLU	245	29.322	0.824	35.359	1.00	18.55	MTGL
ATOM	1928	OE2	GLU	245	30.867	1.174	33.827	1.00	20.37	MTGL
ATOM	1929	C	GLU	245	25.024	-0.053	33.043	1.00	15.41	MTGL
ATOM	1930	O	GLU	245	24.421	1.014	33.060	1.00	16.55	MTGL
ATOM	1931	N	THR	246	24.533	-1.174	33.563	1.00	15.11	MTGL
ATOM	1932	CA	THR	246	23.266	-1.185	34.280	1.00	14.75	MTGL
ATOM	1933	CB	THR	246	22.053	-1.052	33.322	1.00	15.60	MTGL
ATOM	1934	OG1	THR	246	20.884	-0.721	34.085	1.00	14.95	MTGL
ATOM	1935	CG2	THR	246	21.809	-2.352	32.564	1.00	14.91	MTGL
ATOM	1936	C	THR	246	23.168	-2.467	35.100	1.00	14.67	MTGL
ATOM	1937	O	THR	246	23.853	-3.451	34.807	1.00	15.70	MTGL
ATOM	1938	N	ASN	247	22.331	-2.441	36.134	1.00	14.38	MTGL
ATOM	1939	CA	ASN	247	22.128	-3.579	37.035	1.00	14.91	MTGL
ATOM	1940	CB	ASN	247	23.012	-3.462	38.294	1.00	15.25	MTGL
ATOM	1941	CG	ASN	247	24.397	-4.085	38.150	1.00	16.92	MTGL
ATOM	1942	OD1	ASN	247	25.212	-3.972	39.068	1.00	16.53	MTGL
ATOM	1943	ND2	ASN	247	24.668	-4.746	37.024	1.00	14.82	MTGL
ATOM	1944	C	ASN	247	20.693	-3.554	37.560	1.00	15.99	MTGL
ATOM	1945	O	ASN	247	20.057	-2.496	37.609	1.00	15.64	MTGL
ATOM	1946	N	TRP	248	20.194	-4.723	37.946	1.00	15.53	MTGL
ATOM	1947	CA	TRP	248	18.893	-4.830	38.600	1.00	16.36	MTGL
ATOM	1948	CB	TRP	248	17.732	-5.127	37.657	1.00	14.84	MTGL
ATOM	1949	CG	TRP	248	16.455	-5.135	38.445	1.00	13.73	MTGL
ATOM	1950	CD2	TRP	248	15.743	-3.989	38.940	1.00	14.11	MTGL
ATOM	1951	CE2	TRP	248	14.684	-4.467	39.739	1.00	12.13	MTGL
ATOM	1952	CE3	TRP	248	15.902	-2.603	38.786	1.00	14.57	MTGL
ATOM	1953	CD1	TRP	248	15.812	-6.224	38.949	1.00	13.26	MTGL
ATOM	1954	NE1	TRP	248	14.751	-5.833	39.728	1.00	13.69	MTGL
ATOM	1955	CZ2	TRP	248	13.784	-3.613	40.384	1.00	14.00	MTGL
ATOM	1956	CZ3	TRP	248	15.008	-1.751	39.427	1.00	13.98	MTGL
ATOM	1957	CH2	TRP	248	13.962	-2.260	40.218	1.00	14.50	MTGL
ATOM	1958	C	TRP	248	19.080	-5.972	39.576	1.00	16.41	MTGL
ATOM	1959	O	TRP	248	19.507	-7.060	39.200	1.00	17.70	MTGL
ATOM	1960	N	PRO	249	18.765	-5.739	40.850	1.00	17.62	MTGL
ATOM	1961	CD	PRO	249	18.316	-4.468	41.449	1.00	17.41	MTGL
ATOM	1962	CA	PRO	249	18.933	-6.774	41.868	1.00	17.81	MTGL
ATOM	1963	CB	PRO	249	19.010	-5.961	43.156	1.00	18.08	MTGL
ATOM	1964	CG	PRO	249	18.056	-4.857	42.892	1.00	20.03	MTGL
ATOM	1965	C	PRO	249	17.922	-7.898	41.972	1.00	18.16	MTGL
ATOM	1966	O	PRO	249	16.729	-7.722	41.728	1.00	18.74	MTGL
ATOM	1967	N	ILE	250	18.426	-9.074	42.322	1.00	18.86	MTGL
ATOM	1968	CA	ILE	250	17.561	-10.215	42.549	1.00	20.06	MTGL
ATOM	1969	CB	ILE	250	18.189	-11.544	42.040	1.00	20.52	MTGL
ATOM	1970	CG2	ILE	250	18.230	-11.553	40.518	1.00	19.08	MTGL
ATOM	1971	CG1	ILE	250	19.590	-11.734	42.614	1.00	20.81	MTGL

Fig. 1 cont.

ATOM	1972	CD1	ILE	250	20.222	-13.061	42.216	1.00	21.09	MTGL
ATOM	1973	C	ILE	250	17.408	-10.234	44.075	1.00	19.97	MTGL
ATOM	1974	O	ILE	250	16.659	-11.028	44.637	1.00	20.48	MTGL
ATOM	1975	N	SER	251	18.127	-9.327	44.735	1.00	20.21	MTGL
ATOM	1976	CA	SER	251	18.072	-9.206	46.188	1.00	21.30	MTGL
ATOM	1977	CB	SER	251	18.878	-10.331	46.843	1.00	22.63	MTGL
ATOM	1978	OG	SER	251	18.757	-10.273	48.253	1.00	24.04	MTGL
ATOM	1979	C	SER	251	18.603	-7.855	46.658	1.00	21.50	MTGL
ATOM	1980	O	SER	251	19.735	-7.485	46.343	1.00	21.25	MTGL
ATOM	1981	N	CYS	252	17.784	-7.112	47.400	1.00	21.87	MTGL
ATOM	1982	CA	CYS	252	18.194	-5.806	47.918	1.00	23.27	MTGL
ATOM	1983	C	CYS	252	17.529	-5.505	49.263	1.00	24.17	MTGL
ATOM	1984	O	CYS	252	16.654	-4.647	49.340	1.00	24.61	MTGL
ATOM	1985	CB	CYS	252	17.840	-4.684	46.927	1.00	23.57	MTGL
ATOM	1986	SG	CYS	252	18.756	-3.154	47.311	1.00	23.83	MTGL
ATOM	1987	N	PRO	253	17.951	-6.199	50.340	1.00	25.34	MTGL
ATOM	1988	CD	PRO	253	18.950	-7.281	50.290	1.00	26.08	MTGL
ATOM	1989	CA	PRO	253	17.428	-6.052	51.707	1.00	25.93	MTGL
ATOM	1990	CB	PRO	253	18.308	-7.001	52.518	1.00	26.63	MTGL
ATOM	1991	CG	PRO	253	18.627	-8.068	51.539	1.00	27.12	MTGL
ATOM	1992	C	PRO	253	17.416	-4.645	52.294	1.00	26.16	MTGL
ATOM	1993	O	PRO	253	16.415	-4.223	52.865	1.00	26.46	MTGL
ATOM	1994	N	ASN	254	18.526	-3.922	52.178	1.00	26.96	MTGL
ATOM	1995	CA	ASN	254	18.574	-2.560	52.713	1.00	27.76	MTGL
ATOM	1996	CB	ASN	254	19.145	-2.538	54.137	1.00	29.54	MTGL
ATOM	1997	CG	ASN	254	20.541	-3.097	54.220	1.00	31.33	MTGL
ATOM	1998	OD1	ASN	254	20.854	-4.102	53.587	1.00	34.28	MTGL
ATOM	1999	ND2	ASN	254	21.388	-2.465	55.028	1.00	30.87	MTGL
ATOM	2000	C	ASN	254	19.329	-1.580	51.834	1.00	26.98	MTGL
ATOM	2001	O	ASN	254	20.525	-1.355	51.990	1.00	26.72	MTGL
ATOM	2002	N	PRO	255	18.623	-0.993	50.873	1.00	26.12	MTGL
ATOM	2003	CD	PRO	255	17.274	-1.385	50.443	1.00	25.65	MTGL
ATOM	2004	CA	PRO	255	19.222	-0.023	49.957	1.00	25.15	MTGL
ATOM	2005	CB	PRO	255	18.128	0.211	48.913	1.00	25.50	MTGL
ATOM	2006	CG	PRO	255	16.895	-0.262	49.550	1.00	25.88	MTGL
ATOM	2007	C	PRO	255	19.638	1.279	50.637	1.00	25.08	MTGL
ATOM	2008	O	PRO	255	18.993	1.735	51.586	1.00	24.66	MTGL
ATOM	2009	N	ARG	256	20.717	1.869	50.128	1.00	23.54	MTGL
ATOM	2010	CA	ARG	256	21.219	3.131	50.653	1.00	24.56	MTGL
ATOM	2011	CB	ARG	256	22.679	3.345	50.230	1.00	26.20	MTGL
ATOM	2012	CG	ARG	256	23.290	4.673	50.685	1.00	29.88	MTGL
ATOM	2013	CD	ARG	256	23.244	4.843	52.205	1.00	33.75	MTGL
ATOM	2014	NE	ARG	256	24.112	3.900	52.913	1.00	36.98	MTGL
ATOM	2015	CZ	ARG	256	24.215	3.826	54.241	1.00	38.13	MTGL
ATOM	2016	NH1	ARG	256	23.503	4.638	55.016	1.00	37.96	MTGL
ATOM	2017	NH2	ARG	256	25.034	2.942	54.796	1.00	38.27	MTGL
ATOM	2018	C	ARG	256	20.346	4.291	50.152	1.00	24.09	MTGL
ATOM	2019	O	ARG	256	20.223	5.312	50.820	1.00	22.82	MTGL
ATOM	2020	N	TYR	257	19.740	4.129	48.978	1.00	23.76	MTGL
ATOM	2021	CA	TYR	257	18.869	5.162	48.417	1.00	24.47	MTGL
ATOM	2022	CB	TYR	257	19.506	5.829	47.197	1.00	25.66	MTGL
ATOM	2023	CG	TYR	257	20.889	6.365	47.430	1.00	27.18	MTGL
ATOM	2024	CD1	TYR	257	22.003	5.538	47.316	1.00	27.30	MTGL
ATOM	2025	CE1	TYR	257	23.283	6.020	47.567	1.00	28.24	MTGL
ATOM	2026	CD2	TYR	257	21.086	7.693	47.802	1.00	28.37	MTGL
ATOM	2027	CE2	TYR	257	22.363	8.184	48.058	1.00	28.50	MTGL
ATOM	2028	CZ	TYR	257	23.455	7.341	47.940	1.00	29.46	MTGL
ATOM	2029	OH	TYR	257	24.720	7.814	48.215	1.00	30.61	MTGL

Fig. 1 cont.

ATOM	2030	C	TYR	257	17.539	4.578	47.986	1.00	24.30	MTGL
ATOM	2031	O	TYR	257	17.450	3.408	47.619	1.00	24.04	MTGL
ATOM	2032	N	SER	258	16.507	5.411	48.018	1.00	24.57	MTGL
ATOM	2033	CA	SER	258	15.178	4.984	47.607	1.00	24.95	MTGL
ATOM	2034	CB	SER	258	14.162	6.084	47.930	1.00	25.55	MTGL
ATOM	2035	OG	SER	258	14.261	6.471	49.292	1.00	27.69	MTGL
ATOM	2036	C	SER	258	15.230	4.746	46.102	1.00	23.31	MTGL
ATOM	2037	O	SER	258	15.949	5.449	45.392	1.00	23.48	MTGL
ATOM	2038	N	PHE	259	14.488	3.754	45.619	1.00	22.69	MTGL
ATOM	2039	CA	PHE	259	14.459	3.452	44.190	1.00	23.46	MTGL
ATOM	2040	CB	PHE	259	13.961	2.022	43.958	1.00	22.78	MTGL
ATOM	2041	CG	PHE	259	15.051	0.990	43.984	1.00	22.99	MTGL
ATOM	2042	CD1	PHE	259	15.923	0.904	45.066	1.00	24.03	MTGL
ATOM	2043	CD2	PHE	259	15.218	0.112	42.919	1.00	22.03	MTGL
ATOM	2044	CE1	PHE	259	16.945	-0.046	45.089	1.00	24.16	MTGL
ATOM	2045	CE2	PHE	259	16.233	-0.839	42.929	1.00	22.81	MTGL
ATOM	2046	CZ	PHE	259	17.103	-0.918	44.019	1.00	23.26	MTGL
ATOM	2047	C	PHE	259	13.580	4.429	43.411	1.00	23.33	MTGL
ATOM	2048	O	PHE	259	12.681	5.048	43.975	1.00	23.29	MTGL
ATOM	2049	N	PRO	260	13.840	4.581	42.100	1.00	23.87	MTGL
ATOM	2050	CD	PRO	260	14.959	4.002	41.338	1.00	23.34	MTGL
ATOM	2051	CA	PRO	260	13.057	5.492	41.259	1.00	23.83	MTGL
ATOM	2052	CB	PRO	260	13.711	5.346	39.888	1.00	23.96	MTGL
ATOM	2053	CG	PRO	260	15.138	5.012	40.229	1.00	23.75	MTGL
ATOM	2054	C	PRO	260	11.594	5.062	41.255	1.00	24.68	MTGL
ATOM	2055	O	PRO	260	11.287	3.867	41.233	1.00	22.71	MTGL
ATOM	2056	N	SER	261	10.700	6.042	41.274	1.00	24.81	MTGL
ATOM	2057	CA	SER	261	9.267	5.783	41.298	1.00	25.73	MTGL
ATOM	2058	CB	SER	261	8.494	7.107	41.254	1.00	26.69	MTGL
ATOM	2059	OG	SER	261	8.667	7.757	40.003	1.00	27.65	MTGL
ATOM	2060	C	SER	261	8.725	4.862	40.207	1.00	25.31	MTGL
ATOM	2061	O	SER	261	7.853	4.048	40.488	1.00	25.28	MTGL
ATOM	2062	N	ASP	262	9.214	4.979	38.973	1.00	26.49	MTGL
ATOM	2063	CA	ASP	262	8.678	4.131	37.909	1.00	27.78	MTGL
ATOM	2064	CB	ASP	262	8.762	4.824	36.535	1.00	27.44	MTGL
ATOM	2065	CG	ASP	262	10.166	5.267	36.170	1.00	29.75	MTGL
ATOM	2066	OD1	ASP	262	11.138	4.673	36.681	1.00	29.62	MTGL
ATOM	2067	OD2	ASP	262	10.289	6.207	35.349	1.00	29.82	MTGL
ATOM	2068	C	ASP	262	9.259	2.724	37.816	1.00	28.89	MTGL
ATOM	2069	O	ASP	262	9.063	2.037	36.812	1.00	29.03	MTGL
ATOM	2070	N	VAL	263	9.968	2.291	38.857	1.00	29.21	MTGL
ATOM	2071	CA	VAL	263	10.529	0.941	38.878	1.00	29.98	MTGL
ATOM	2072	CB	VAL	263	12.063	0.930	38.613	1.00	29.51	MTGL
ATOM	2073	CG1	VAL	263	12.355	1.468	37.226	1.00	28.86	MTGL
ATOM	2074	CG2	VAL	263	12.788	1.751	39.669	1.00	29.09	MTGL
ATOM	2075	C	VAL	263	10.254	0.257	40.218	1.00	30.76	MTGL
ATOM	2076	O	VAL	263	10.672	-0.879	40.434	1.00	30.49	MTGL
ATOM	2077	N	LYS	264	9.534	0.941	41.108	1.00	31.82	MTGL
ATOM	2078	CA	LYS	264	9.215	0.394	42.432	1.00	33.07	MTGL
ATOM	2079	CB	LYS	264	8.570	1.464	43.317	1.00	34.40	MTGL
ATOM	2080	CG	LYS	264	9.566	2.391	44.002	1.00	36.45	MTGL
ATOM	2081	CD	LYS	264	8.859	3.344	44.961	1.00	38.24	MTGL
ATOM	2082	CE	LYS	264	9.844	4.281	45.655	1.00	40.37	MTGL
ATOM	2083	NZ	LYS	264	9.148	5.291	46.508	1.00	40.59	MTGL
ATOM	2084	C	LYS	264	8.321	-0.842	42.415	1.00	33.40	MTGL
ATOM	2085	O	LYS	264	8.267	-1.595	43.394	1.00	33.28	MTGL
ATOM	2086	N	ASN	265	7.612	-1.049	41.313	1.00	32.77	MTGL
ATOM	2087	CA	ASN	265	6.738	-2.208	41.194	1.00	32.23	MTGL

Fig. 1 cont.

ATOM	2088	CB	ASN	265	5.587	-1.898	40.236	1.00	34.35	MTGL
ATOM	2089	CG	ASN	265	6.074	-1.544	38.845	1.00	36.81	MTGL
ATOM	2090	OD1	ASN	265	6.837	-0.593	38.667	1.00	37.33	MTGL
ATOM	2091	ND2	ASN	265	5.638	-2.311	37.848	1.00	38.71	MTGL
ATOM	2092	C	ASN	265	7.504	-3.436	40.689	1.00	30.70	MTGL
ATOM	2093	O	ASN	265	6.998	-4.555	40.744	1.00	30.83	MTGL
ATOM	2094	N	ILE	266	8.719	-3.226	40.192	1.00	28.28	MTGL
ATOM	2095	CA	ILE	266	9.517	-4.336	39.687	1.00	25.48	MTGL
ATOM	2096	CB	ILE	266	10.651	-3.848	38.767	1.00	23.96	MTGL
ATOM	2097	CG2	ILE	266	11.449	-5.046	38.257	1.00	23.40	MTGL
ATOM	2098	CG1	ILE	266	10.067	-3.054	37.594	1.00	23.38	MTGL
ATOM	2099	CD1	ILE	266	11.114	-2.516	36.627	1.00	22.30	MTGL
ATOM	2100	C	ILE	266	10.122	-5.094	40.867	1.00	24.88	MTGL
ATOM	2101	O	ILE	266	10.825	-4.520	41.691	1.00	22.68	MTGL
ATOM	2102	N	PRO	267	9.850	-6.404	40.960	1.00	24.25	MTGL
ATOM	2103	CD	PRO	267	9.012	-7.212	40.051	1.00	23.79	MTGL
ATOM	2104	CA	PRO	267	10.374	-7.225	42.052	1.00	23.72	MTGL
ATOM	2105	CB	PRO	267	9.542	-8.497	41.946	1.00	24.48	MTGL
ATOM	2106	CG	PRO	267	9.373	-8.633	40.455	1.00	24.22	MTGL
ATOM	2107	C	PRO	267	11.865	-7.526	41.943	1.00	23.20	MTGL
ATOM	2108	O	PRO	267	12.437	-7.515	40.851	1.00	22.29	MTGL
ATOM	2109	N	PHE	268	12.487	-7.781	43.090	1.00	22.29	MTGL
ATOM	2110	CA	PHE	268	13.898	-8.134	43.119	1.00	22.67	MTGL
ATOM	2111	CB	PHE	268	14.533	-7.757	44.462	1.00	22.68	MTGL
ATOM	2112	CG	PHE	268	14.493	-6.285	44.754	1.00	22.93	MTGL
ATOM	2113	CD1	PHE	268	14.838	-5.360	43.773	1.00	22.68	MTGL
ATOM	2114	CD2	PHE	268	14.115	-5.821	46.008	1.00	23.18	MTGL
ATOM	2115	CE1	PHE	268	14.806	-3.993	44.037	1.00	23.40	MTGL
ATOM	2116	CE2	PHE	268	14.079	-4.454	46.283	1.00	23.36	MTGL
ATOM	2117	CZ	PHE	268	14.425	-3.539	45.298	1.00	23.35	MTGL
ATOM	2118	C	PHE	268	13.925	-9.643	42.921	1.00	21.88	MTGL
ATOM	2119	O	PHE	268	13.780	-10.414	43.873	1.00	21.02	MTGL
ATOM	2120	N	SER	269	14.088	-10.049	41.667	1.00	21.08	MTGL
ATOM	2121	CA	SER	269	14.110	-11.457	41.294	1.00	20.72	MTGL
ATOM	2122	CB	SER	269	12.702	-12.052	41.417	1.00	19.79	MTGL
ATOM	2123	OG	SER	269	11.814	-11.416	40.509	1.00	19.06	MTGL
ATOM	2124	C	SER	269	14.554	-11.546	39.844	1.00	20.32	MTGL
ATOM	2125	O	SER	269	14.670	-10.530	39.161	1.00	19.97	MTGL
ATOM	2126	N	PRO	270	14.814	-12.767	39.354	1.00	21.15	MTGL
ATOM	2127	CD	PRO	270	14.896	-14.054	40.075	1.00	20.43	MTGL
ATOM	2128	CA	PRO	270	15.237	-12.915	37.958	1.00	20.91	MTGL
ATOM	2129	CB	PRO	270	15.407	-14.426	37.809	1.00	20.78	MTGL
ATOM	2130	CG	PRO	270	15.832	-14.852	39.196	1.00	20.58	MTGL
ATOM	2131	C	PRO	270	14.169	-12.348	37.016	1.00	20.97	MTGL
ATOM	2132	O	PRO	270	14.489	-11.688	36.028	1.00	20.64	MTGL
ATOM	2133	N	GLU	271	12.900	-12.605	37.331	1.00	21.15	MTGL
ATOM	2134	CA	GLU	271	11.797	-12.102	36.508	1.00	21.55	MTGL
ATOM	2135	CB	GLU	271	10.446	-12.538	37.082	1.00	22.38	MTGL
ATOM	2136	CG	GLU	271	10.155	-14.036	37.003	1.00	25.49	MTGL
ATOM	2137	CD	GLU	271	11.082	-14.873	37.870	1.00	26.37	MTGL
ATOM	2138	OE1	GLU	271	11.447	-14.415	38.970	1.00	26.39	MTGL
ATOM	2139	OE2	GLU	271	11.433	-15.997	37.457	1.00	27.82	MTGL
ATOM	2140	C	GLU	271	11.861	-10.577	36.476	1.00	20.84	MTGL
ATOM	2141	O	GLU	271	11.640	-9.949	35.434	1.00	20.80	MTGL
ATOM	2142	N	GLY	272	12.166	-9.993	37.631	1.00	19.71	MTGL
ATOM	2143	CA	GLY	272	12.271	-8.550	37.734	1.00	18.93	MTGL
ATOM	2144	C	GLY	272	13.415	-8.008	36.897	1.00	18.95	MTGL
ATOM	2145	O	GLY	272	13.284	-6.941	36.289	1.00	19.13	MTGL

Fig. 1 cont.

ATOM	2146	N	GLN	273	14.534	-8.734	36.859	1.00	17.61	MTGL
ATOM	2147	CA	GLN	273	15.687	-8.299	36.074	1.00	18.43	MTGL
ATOM	2148	CB	GLN	273	16.864	-9.260	36.230	1.00	17.76	MTGL
ATOM	2149	CG	GLN	273	17.467	-9.345	37.610	1.00	19.26	MTGL
ATOM	2150	CD	GLN	273	18.720	-10.190	37.607	1.00	19.87	MTGL
ATOM	2151	OE1	GLN	273	18.726	-11.304	37.073	1.00	18.60	MTGL
ATOM	2152	NE2	GLN	273	19.793	-9.667	38.198	1.00	19.12	MTGL
ATOM	2153	C	GLN	273	15.300	-8.270	34.607	1.00	18.09	MTGL
ATOM	2154	O	GLN	273	15.660	-7.353	33.869	1.00	17.98	MTGL
ATOM	2155	N	THR	274	14.579	-9.305	34.193	1.00	17.84	MTGL
ATOM	2156	CA	THR	274	14.131	-9.433	32.815	1.00	17.91	MTGL
ATOM	2157	CB	THR	274	13.293	-10.712	32.637	1.00	18.13	MTGL
ATOM	2158	OG1	THR	274	14.128	-11.857	32.859	1.00	19.81	MTGL
ATOM	2159	CG2	THR	274	12.695	-10.777	31.231	1.00	19.04	MTGL
ATOM	2160	C	THR	274	13.293	-8.219	32.428	1.00	17.34	MTGL
ATOM	2161	O	THR	274	13.504	-7.619	31.376	1.00	16.72	MTGL
ATOM	2162	N	THR	275	12.351	-7.859	33.294	1.00	16.98	MTGL
ATOM	2163	CA	THR	275	11.483	-6.712	33.056	1.00	17.24	MTGL
ATOM	2164	CB	THR	275	10.425	-6.574	34.169	1.00	17.29	MTGL
ATOM	2165	OG1	THR	275	9.587	-7.735	34.181	1.00	17.49	MTGL
ATOM	2166	CG2	THR	275	9.563	-5.331	33.937	1.00	16.88	MTGL
ATOM	2167	C	THR	275	12.270	-5.405	32.982	1.00	17.05	MTGL
ATOM	2168	O	THR	275	12.090	-4.618	32.052	1.00	17.86	MTGL
ATOM	2169	N	PHE	276	13.139	-5.174	33.963	1.00	16.71	MTGL
ATOM	2170	CA	PHE	276	13.937	-3.949	34.000	1.00	15.62	MTGL
ATOM	2171	CB	PHE	276	14.781	-3.890	35.278	1.00	15.45	MTGL
ATOM	2172	CG	PHE	276	15.621	-2.646	35.389	1.00	16.62	MTGL
ATOM	2173	CD1	PHE	276	15.048	-1.437	35.777	1.00	17.56	MTGL
ATOM	2174	CD2	PHE	276	16.976	-2.675	35.077	1.00	17.00	MTGL
ATOM	2175	CE1	PHE	276	15.817	-0.272	35.860	1.00	18.40	MTGL
ATOM	2176	CE2	PHE	276	17.757	-1.518	35.155	1.00	18.28	MTGL
ATOM	2177	CZ	PHE	276	17.176	-0.314	35.546	1.00	17.73	MTGL
ATOM	2178	C	PHE	276	14.866	-3.825	32.796	1.00	16.42	MTGL
ATOM	2179	O	PHE	276	14.907	-2.785	32.136	1.00	17.18	MTGL
ATOM	2180	N	ILE	277	15.627	-4.881	32.520	1.00	15.71	MTGL
ATOM	2181	CA	ILE	277	16.558	-4.864	31.399	1.00	14.72	MTGL
ATOM	2182	CB	ILE	277	17.364	-6.181	31.330	1.00	14.70	MTGL
ATOM	2183	CG2	ILE	277	18.227	-6.209	30.063	1.00	14.44	MTGL
ATOM	2184	CG1	ILE	277	18.238	-6.305	32.587	1.00	14.86	MTGL
ATOM	2185	CD1	ILE	277	18.945	-7.635	32.727	1.00	14.36	MTGL
ATOM	2186	C	ILE	277	15.832	-4.643	30.081	1.00	14.58	MTGL
ATOM	2187	O	ILE	277	16.286	-3.868	29.250	1.00	14.01	MTGL
ATOM	2188	N	THR	278	14.708	-5.330	29.890	1.00	14.56	MTGL
ATOM	2189	CA	THR	278	13.930	-5.182	28.663	1.00	15.56	MTGL
ATOM	2190	CB	THR	278	12.724	-6.159	28.635	1.00	15.82	MTGL
ATOM	2191	OG1	THR	278	13.203	-7.505	28.742	1.00	16.63	MTGL
ATOM	2192	CG2	THR	278	11.942	-6.017	27.329	1.00	15.47	MTGL
ATOM	2193	C	THR	278	13.411	-3.747	28.530	1.00	15.31	MTGL
ATOM	2194	O	THR	278	13.435	-3.168	27.446	1.00	16.65	MTGL
ATOM	2195	N	ASN	279	12.946	-3.174	29.634	1.00	15.85	MTGL
ATOM	2196	CA	ASN	279	12.430	-1.808	29.609	1.00	16.36	MTGL
ATOM	2197	CB	ASN	279	11.743	-1.475	30.939	1.00	15.56	MTGL
ATOM	2198	CG	ASN	279	10.388	-2.159	31.077	1.00	17.29	MTGL
ATOM	2199	OD1	ASN	279	9.939	-2.848	30.167	1.00	15.98	MTGL
ATOM	2200	ND2	ASN	279	9.736	-1.966	32.215	1.00	17.61	MTGL
ATOM	2201	C	ASN	279	13.520	-0.783	29.304	1.00	16.68	MTGL
ATOM	2202	O	ASN	279	13.300	0.155	28.533	1.00	16.98	MTGL
ATOM	2203	N	VAL	280	14.695	-0.950	29.904	1.00	16.27	MTGL

Fig. 1 cont.

ATOM	2204	CA	VAL	280	15.782	-0.013	29.641	1.00	15.63	MTGL
ATOM	2205	CB	VAL	280	17.005	-0.283	30.545	1.00	15.75	MTGL
ATOM	2206	CG1	VAL	280	18.171	0.623	30.126	1.00	14.59	MTGL
ATOM	2207	CG2	VAL	280	16.634	-0.023	32.007	1.00	14.29	MTGL
ATOM	2208	C	VAL	280	16.203	-0.144	28.183	1.00	15.42	MTGL
ATOM	2209	O	VAL	280	16.483	0.852	27.512	1.00	14.80	MTGL
ATOM	2210	N	ALA	281	16.236	-1.381	27.697	1.00	14.47	MTGL
ATOM	2211	CA	ALA	281	16.614	-1.645	26.315	1.00	15.95	MTGL
ATOM	2212	CB	ALA	281	16.573	-3.147	26.035	1.00	15.85	MTGL
ATOM	2213	C	ALA	281	15.662	-0.922	25.369	1.00	16.21	MTGL
ATOM	2214	O	ALA	281	16.087	-0.290	24.403	1.00	15.33	MTGL
ATOM	2215	N	ASN	282	14.369	-1.018	25.653	1.00	16.95	MTGL
ATOM	2216	CA	ASN	282	13.383	-0.386	24.792	1.00	17.84	MTGL
ATOM	2217	CB	ASN	282	12.015	-1.013	25.021	1.00	19.13	MTGL
ATOM	2218	CG	ASN	282	11.924	-2.398	24.400	1.00	20.19	MTGL
ATOM	2219	OD1	ASN	282	12.393	-2.605	23.289	1.00	23.04	MTGL
ATOM	2220	ND2	ASN	282	11.328	-3.341	25.108	1.00	19.74	MTGL
ATOM	2221	C	ASN	282	13.337	1.124	24.910	1.00	18.52	MTGL
ATOM	2222	O	ASN	282	12.841	1.806	24.011	1.00	17.57	MTGL
ATOM	2223	N	ILE	283	13.851	1.651	26.015	1.00	18.29	MTGL
ATOM	2224	CA	ILE	283	13.902	3.095	26.168	1.00	18.86	MTGL
ATOM	2225	CB	ILE	283	14.254	3.496	27.603	1.00	19.57	MTGL
ATOM	2226	CG2	ILE	283	14.818	4.917	27.636	1.00	20.74	MTGL
ATOM	2227	CG1	ILE	283	13.003	3.365	28.471	1.00	21.83	MTGL
ATOM	2228	CD1	ILE	283	13.214	3.728	29.909	1.00	25.75	MTGL
ATOM	2229	C	ILE	283	14.994	3.566	25.209	1.00	17.96	MTGL
ATOM	2230	O	ILE	283	14.816	4.543	24.483	1.00	17.19	MTGL
ATOM	2231	N	VAL	284	16.114	2.844	25.200	1.00	17.16	MTGL
ATOM	2232	CA	VAL	284	17.236	3.164	24.321	1.00	15.86	MTGL
ATOM	2233	CB	VAL	284	18.420	2.194	24.554	1.00	16.05	MTGL
ATOM	2234	CG1	VAL	284	19.491	2.409	23.491	1.00	14.09	MTGL
ATOM	2235	CG2	VAL	284	19.006	2.416	25.956	1.00	14.93	MTGL
ATOM	2236	C	VAL	284	16.797	3.075	22.861	1.00	16.21	MTGL
ATOM	2237	O	VAL	284	17.089	3.963	22.059	1.00	15.26	MTGL
ATOM	2238	N	SER	285	16.086	2.004	22.519	1.00	16.71	MTGL
ATOM	2239	CA	SER	285	15.618	1.813	21.145	1.00	18.87	MTGL
ATOM	2240	CB	SER	285	14.977	0.429	20.979	1.00	18.71	MTGL
ATOM	2241	OG	SER	285	15.954	-0.595	21.082	1.00	25.57	MTGL
ATOM	2242	C	SER	285	14.622	2.882	20.697	1.00	18.52	MTGL
ATOM	2243	O	SER	285	14.453	3.101	19.507	1.00	19.96	MTGL
ATOM	2244	N	SER	286	13.964	3.544	21.644	1.00	17.61	MTGL
ATOM	2245	CA	SER	286	12.993	4.574	21.295	1.00	18.49	MTGL
ATOM	2246	CB	SER	286	11.970	4.754	22.421	1.00	18.70	MTGL
ATOM	2247	OG	SER	286	12.505	5.533	23.483	1.00	18.21	MTGL
ATOM	2248	C	SER	286	13.686	5.909	21.040	1.00	18.76	MTGL
ATOM	2249	O	SER	286	13.043	6.892	20.676	1.00	17.84	MTGL
ATOM	2250	N	VAL	287	15.000	5.931	21.235	1.00	18.85	MTGL
ATOM	2251	CA	VAL	287	15.793	7.138	21.048	1.00	17.18	MTGL
ATOM	2252	CB	VAL	287	16.866	7.267	22.158	1.00	17.69	MTGL
ATOM	2253	CG1	VAL	287	17.764	8.477	21.890	1.00	17.29	MTGL
ATOM	2254	CG2	VAL	287	16.189	7.399	23.512	1.00	17.29	MTGL
ATOM	2255	C	VAL	287	16.493	7.144	19.702	1.00	17.44	MTGL
ATOM	2256	O	VAL	287	16.979	6.112	19.241	1.00	16.36	MTGL
ATOM	2257	N	SER	288	16.546	8.313	19.073	1.00	18.07	MTGL
ATOM	2258	CA	SER	288	17.215	8.442	17.787	1.00	18.93	MTGL
ATOM	2259	CB	SER	288	17.202	9.900	17.329	1.00	19.03	MTGL
ATOM	2260	OG	SER	288	17.858	10.045	16.082	1.00	21.05	MTGL
ATOM	2261	C	SER	288	18.657	7.950	17.911	1.00	18.73	MTGL

Fig. 1 cont.

ATOM	2262	O	SER	288	19.444	8.498	18.682	1.00	18.95	MTGL
ATOM	2263	N	ARG	289	18.984	6.915	17.145	1.00	17.81	MTGL
ATOM	2264	CA	ARG	289	20.313	6.311	17.137	1.00	18.49	MTGL
ATOM	2265	CB	ARG	289	21.387	7.347	16.760	1.00	20.78	MTGL
ATOM	2266	CG	ARG	289	21.128	8.067	15.429	1.00	24.72	MTGL
ATOM	2267	CD	ARG	289	22.378	8.761	14.890	1.00	26.86	MTGL
ATOM	2268	NE	ARG	289	23.269	7.812	14.225	1.00	31.29	MTGL
ATOM	2269	CZ	ARG	289	24.483	8.101	13.758	1.00	32.57	MTGL
ATOM	2270	NH1	ARG	289	24.981	9.327	13.880	1.00	33.06	MTGL
ATOM	2271	NH2	ARG	289	25.200	7.159	13.159	1.00	32.56	MTGL
ATOM	2272	C	ARG	289	20.687	5.616	18.456	1.00	17.41	MTGL
ATOM	2273	O	ARG	289	21.865	5.493	18.785	1.00	16.35	MTGL
ATOM	2274	N	GLY	290	19.681	5.173	19.207	1.00	16.31	MTGL
ATOM	2275	CA	GLY	290	19.944	4.449	20.442	1.00	16.82	MTGL
ATOM	2276	C	GLY	290	20.267	3.042	19.970	1.00	17.04	MTGL
ATOM	2277	O	GLY	290	19.393	2.353	19.450	1.00	16.17	MTGL
ATOM	2278	N	VAL	291	21.502	2.595	20.159	1.00	17.31	MTGL
ATOM	2279	CA	VAL	291	21.893	1.290	19.644	1.00	17.47	MTGL
ATOM	2280	CB	VAL	291	22.951	1.475	18.534	1.00	17.89	MTGL
ATOM	2281	CG1	VAL	291	22.387	2.347	17.419	1.00	18.32	MTGL
ATOM	2282	CG2	VAL	291	24.204	2.125	19.112	1.00	16.95	MTGL
ATOM	2283	C	VAL	291	22.403	0.194	20.581	1.00	18.18	MTGL
ATOM	2284	O	VAL	291	22.610	-0.933	20.133	1.00	17.39	MTGL
ATOM	2285	N	GLY	292	22.608	0.489	21.861	1.00	18.56	MTGL
ATOM	2286	CA	GLY	292	23.117	-0.559	22.730	1.00	17.86	MTGL
ATOM	2287	C	GLY	292	22.774	-0.538	24.205	1.00	18.08	MTGL
ATOM	2288	O	GLY	292	22.404	0.493	24.766	1.00	17.12	MTGL
ATOM	2289	N	LEU	293	22.913	-1.708	24.824	1.00	18.07	MTGL
ATOM	2290	CA	LEU	293	22.653	-1.902	26.246	1.00	18.28	MTGL
ATOM	2291	CB	LEU	293	21.223	-2.404	26.474	1.00	19.14	MTGL
ATOM	2292	CG	LEU	293	20.858	-2.808	27.910	1.00	22.33	MTGL
ATOM	2293	CD1	LEU	293	21.047	-1.625	28.842	1.00	23.17	MTGL
ATOM	2294	CD2	LEU	293	19.410	-3.278	27.965	1.00	23.54	MTGL
ATOM	2295	C	LEU	293	23.634	-2.952	26.744	1.00	17.77	MTGL
ATOM	2296	O	LEU	293	23.763	-4.009	26.130	1.00	17.95	MTGL
ATOM	2297	N	PHE	294	24.322	-2.658	27.847	1.00	16.70	MTGL
ATOM	2298	CA	PHE	294	25.288	-3.586	28.431	1.00	16.53	MTGL
ATOM	2299	CB	PHE	294	26.726	-3.097	28.229	1.00	16.07	MTGL
ATOM	2300	CG	PHE	294	27.199	-3.136	26.800	1.00	16.47	MTGL
ATOM	2301	CD1	PHE	294	26.792	-2.164	25.890	1.00	16.58	MTGL
ATOM	2302	CD2	PHE	294	28.069	-4.137	26.368	1.00	15.29	MTGL
ATOM	2303	CE1	PHE	294	27.241	-2.188	24.571	1.00	16.35	MTGL
ATOM	2304	CE2	PHE	294	28.523	-4.170	25.050	1.00	15.62	MTGL
ATOM	2305	CZ	PHE	294	28.110	-3.192	24.150	1.00	15.75	MTGL
ATOM	2306	C	PHE	294	25.046	-3.739	29.930	1.00	16.96	MTGL
ATOM	2307	O	PHE	294	25.032	-2.752	30.667	1.00	17.04	MTGL
ATOM	2308	N	TYR	295	24.855	-4.977	30.374	1.00	16.03	MTGL
ATOM	2309	CA	TYR	295	24.639	-5.253	31.789	1.00	15.26	MTGL
ATOM	2310	CB	TYR	295	23.905	-6.582	31.963	1.00	14.47	MTGL
ATOM	2311	CG	TYR	295	23.323	-6.755	33.344	1.00	14.21	MTGL
ATOM	2312	CD1	TYR	295	22.033	-6.312	33.637	1.00	12.09	MTGL
ATOM	2313	CE1	TYR	295	21.512	-6.421	34.918	1.00	13.83	MTGL
ATOM	2314	CD2	TYR	295	24.080	-7.316	34.372	1.00	13.69	MTGL
ATOM	2315	CE2	TYR	295	23.566	-7.431	35.662	1.00	13.74	MTGL
ATOM	2316	CZ	TYR	295	22.284	-6.979	35.930	1.00	14.39	MTGL
ATOM	2317	OH	TYR	295	21.784	-7.058	37.211	1.00	15.39	MTGL
ATOM	2318	C	TYR	295	26.033	-5.346	32.410	1.00	15.23	MTGL
ATOM	2319	O	TYR	295	26.932	-5.933	31.814	1.00	15.00	MTGL

Fig. 1 cont.

ATOM	2320	N	TRP	296	26.228	-4.778	33.594	1.00	14.56	MTGL
ATOM	2321	CA	TRP	296	27.559	-4.829	34.195	1.00	15.23	MTGL
ATOM	2322	CB	TRP	296	27.847	-3.541	34.984	1.00	14.28	MTGL
ATOM	2323	CG	TRP	296	29.306	-3.370	35.309	1.00	15.53	MTGL
ATOM	2324	CD2	TRP	296	29.918	-3.408	36.611	1.00	16.19	MTGL
ATOM	2325	CE2	TRP	296	31.309	-3.221	36.424	1.00	15.45	MTGL
ATOM	2326	CE3	TRP	296	29.428	-3.583	37.916	1.00	16.72	MTGL
ATOM	2327	CD1	TRP	296	30.321	-3.168	34.418	1.00	15.37	MTGL
ATOM	2328	NE1	TRP	296	31.526	-3.077	35.079	1.00	15.66	MTGL
ATOM	2329	CZ2	TRP	296	32.219	-3.201	37.495	1.00	15.21	MTGL
ATOM	2330	CZ3	TRP	296	30.334	-3.564	38.985	1.00	16.55	MTGL
ATOM	2331	CH2	TRP	296	31.715	-3.375	38.763	1.00	16.36	MTGL
ATOM	2332	C	TRP	296	27.842	-6.029	35.097	1.00	14.61	MTGL
ATOM	2333	O	TRP	296	27.174	-6.224	36.114	1.00	15.45	MTGL
ATOM	2334	N	GLU	297	28.835	-6.826	34.702	1.00	14.69	MTGL
ATOM	2335	CA	GLU	297	29.298	-7.977	35.479	1.00	14.59	MTGL
ATOM	2336	CB	GLU	297	30.125	-7.465	36.661	1.00	13.64	MTGL
ATOM	2337	CG	GLU	297	31.453	-6.849	36.261	1.00	14.27	MTGL
ATOM	2338	CD	GLU	297	32.506	-7.896	35.947	1.00	13.45	MTGL
ATOM	2339	OE1	GLU	297	32.176	-9.102	35.991	1.00	12.29	MTGL
ATOM	2340	OE2	GLU	297	33.661	-7.510	35.660	1.00	14.90	MTGL
ATOM	2341	C	GLU	297	28.245	-8.952	36.000	1.00	15.16	MTGL
ATOM	2342	O	GLU	297	28.177	-9.219	37.205	1.00	15.61	MTGL
ATOM	2343	N	PRO	298	27.436	-9.529	35.100	1.00	14.59	MTGL
ATOM	2344	CD	PRO	298	27.545	-9.487	33.631	1.00	12.84	MTGL
ATOM	2345	CA	PRO	298	26.395	-10.474	35.517	1.00	14.70	MTGL
ATOM	2346	CB	PRO	298	25.651	-10.750	34.217	1.00	13.52	MTGL
ATOM	2347	CG	PRO	298	26.765	-10.716	33.213	1.00	12.86	MTGL
ATOM	2348	C	PRO	298	26.897	-11.774	36.158	1.00	14.86	MTGL
ATOM	2349	O	PRO	298	26.159	-12.424	36.901	1.00	14.01	MTGL
ATOM	2350	N	ALA	299	28.143	-12.147	35.875	1.00	15.30	MTGL
ATOM	2351	CA	ALA	299	28.689	-13.397	36.396	1.00	16.12	MTGL
ATOM	2352	CB	ALA	299	29.321	-14.184	35.245	1.00	16.45	MTGL
ATOM	2353	C	ALA	299	29.684	-13.297	37.551	1.00	16.40	MTGL
ATOM	2354	O	ALA	299	30.281	-14.303	37.934	1.00	16.31	MTGL
ATOM	2355	N	TRP	300	29.861	-12.104	38.111	1.00	16.53	MTGL
ATOM	2356	CA	TRP	300	30.804	-11.911	39.218	1.00	16.99	MTGL
ATOM	2357	CB	TRP	300	31.205	-10.438	39.300	1.00	15.26	MTGL
ATOM	2358	CG	TRP	300	32.518	-10.195	39.960	1.00	16.30	MTGL
ATOM	2359	CD2	TRP	300	33.248	-8.960	39.982	1.00	14.96	MTGL
ATOM	2360	CE2	TRP	300	34.440	-9.195	40.697	1.00	14.93	MTGL
ATOM	2361	CE3	TRP	300	33.007	-7.679	39.463	1.00	15.40	MTGL
ATOM	2362	CD1	TRP	300	33.274	-11.099	40.648	1.00	14.90	MTGL
ATOM	2363	NE1	TRP	300	34.429	-10.508	41.092	1.00	16.48	MTGL
ATOM	2364	CZ2	TRP	300	35.398	-8.195	40.912	1.00	13.85	MTGL
ATOM	2365	CZ3	TRP	300	33.960	-6.678	39.678	1.00	13.88	MTGL
ATOM	2366	CH2	TRP	300	35.143	-6.949	40.398	1.00	15.26	MTGL
ATOM	2367	C	TRP	300	30.159	-12.347	40.536	1.00	17.14	MTGL
ATOM	2368	O	TRP	300	29.909	-11.522	41.423	1.00	16.66	MTGL
ATOM	2369	N	ILE	301	29.907	-13.645	40.670	1.00	17.69	MTGL
ATOM	2370	CA	ILE	301	29.255	-14.168	41.866	1.00	19.29	MTGL
ATOM	2371	CB	ILE	301	28.893	-15.655	41.695	1.00	20.95	MTGL
ATOM	2372	CG2	ILE	301	27.937	-15.812	40.517	1.00	19.88	MTGL
ATOM	2373	CG1	ILE	301	30.153	-16.496	41.479	1.00	22.04	MTGL
ATOM	2374	CD1	ILE	301	29.858	-17.985	41.366	1.00	23.83	MTGL
ATOM	2375	C	ILE	301	29.973	-13.980	43.205	1.00	19.82	MTGL
ATOM	2376	O	ILE	301	29.325	-14.022	44.249	1.00	19.53	MTGL
ATOM	2377	N	HIS	302	31.287	-13.768	43.189	1.00	19.79	MTGL

Fig. 1 cont.

ATOM	2378	CA	HIS	302	32.016	-13.555	44.441	1.00	21.73	MTGL
ATOM	2379	CB	HIS	302	33.464	-14.042	44.317	1.00	22.38	MTGL
ATOM	2380	CG	HIS	302	33.603	-15.529	44.396	1.00	24.09	MTGL
ATOM	2381	CD2	HIS	302	33.254	-16.405	45.368	1.00	25.41	MTGL
ATOM	2382	ND1	HIS	302	34.154	-16.282	43.382	1.00	25.82	MTGL
ATOM	2383	CE1	HIS	302	34.137	-17.558	43.724	1.00	26.05	MTGL
ATOM	2384	NE2	HIS	302	33.596	-17.659	44.924	1.00	26.28	MTGL
ATOM	2385	C	HIS	302	32.002	-12.085	44.857	1.00	21.31	MTGL
ATOM	2386	O	HIS	302	32.609	-11.707	45.854	1.00	22.67	MTGL
ATOM	2387	N	ASN	303	31.303	-11.265	44.079	1.00	20.90	MTGL
ATOM	2388	CA	ASN	303	31.183	-9.831	44.337	1.00	20.21	MTGL
ATOM	2389	CB	ASN	303	32.200	-9.074	43.473	1.00	20.27	MTGL
ATOM	2390	CG	ASN	303	32.170	-7.573	43.706	1.00	21.40	MTGL
ATOM	2391	OD1	ASN	303	31.977	-7.118	44.828	1.00	22.04	MTGL
ATOM	2392	ND2	ASN	303	32.380	-6.799	42.643	1.00	19.16	MTGL
ATOM	2393	C	ASN	303	29.752	-9.467	43.946	1.00	20.34	MTGL
ATOM	2394	O	ASN	303	29.508	-8.488	43.233	1.00	18.25	MTGL
ATOM	2395	N	ALA	304	28.820	-10.284	44.432	1.00	19.57	MTGL
ATOM	2396	CA	ALA	304	27.395	-10.180	44.134	1.00	19.48	MTGL
ATOM	2397	CB	ALA	304	26.612	-11.157	45.017	1.00	18.17	MTGL
ATOM	2398	C	ALA	304	26.731	-8.813	44.182	1.00	19.61	MTGL
ATOM	2399	O	ALA	304	25.909	-8.505	43.323	1.00	20.70	MTGL
ATOM	2400	N	ASN	305	27.050	-7.999	45.181	1.00	18.88	MTGL
ATOM	2401	CA	ASN	305	26.424	-6.685	45.271	1.00	19.31	MTGL
ATOM	2402	CB	ASN	305	26.580	-6.114	46.683	1.00	19.61	MTGL
ATOM	2403	CG	ASN	305	28.024	-5.847	47.048	1.00	20.60	MTGL
ATOM	2404	OD1	ASN	305	28.868	-6.747	47.014	1.00	21.53	MTGL
ATOM	2405	ND2	ASN	305	28.318	-4.606	47.403	1.00	21.29	MTGL
ATOM	2406	C	ASN	305	27.018	-5.723	44.240	1.00	19.61	MTGL
ATOM	2407	O	ASN	305	26.522	-4.611	44.041	1.00	19.33	MTGL
ATOM	2408	N	LEU	306	28.088	-6.160	43.587	1.00	18.26	MTGL
ATOM	2409	CA	LEU	306	28.747	-5.359	42.563	1.00	18.47	MTGL
ATOM	2410	CB	LEU	306	27.919	-5.384	41.270	1.00	17.67	MTGL
ATOM	2411	CG	LEU	306	27.771	-6.764	40.612	1.00	18.35	MTGL
ATOM	2412	CD1	LEU	306	26.888	-6.670	39.372	1.00	16.49	MTGL
ATOM	2413	CD2	LEU	306	29.144	-7.300	40.238	1.00	16.40	MTGL
ATOM	2414	C	LEU	306	28.994	-3.915	42.990	1.00	19.28	MTGL
ATOM	2415	O	LEU	306	28.698	-2.981	42.241	1.00	19.04	MTGL
ATOM	2416	N	GLY	307	29.529	-3.740	44.196	1.00	18.62	MTGL
ATOM	2417	CA	GLY	307	29.828	-2.414	44.700	1.00	18.44	MTGL
ATOM	2418	C	GLY	307	28.657	-1.530	45.092	1.00	18.36	MTGL
ATOM	2419	O	GLY	307	28.866	-0.379	45.466	1.00	18.04	MTGL
ATOM	2420	N	SER	308	27.435	-2.047	45.020	1.00	17.93	MTGL
ATOM	2421	CA	SER	308	26.256	-1.256	45.380	1.00	17.81	MTGL
ATOM	2422	CB	SER	308	25.134	-1.480	44.361	1.00	16.84	MTGL
ATOM	2423	OG	SER	308	24.555	-2.759	44.528	1.00	15.76	MTGL
ATOM	2424	C	SER	308	25.756	-1.651	46.762	1.00	18.10	MTGL
ATOM	2425	O	SER	308	26.282	-2.585	47.361	1.00	18.30	MTGL
ATOM	2426	N	SER	309	24.735	-0.947	47.250	1.00	18.76	MTGL
ATOM	2427	CA	SER	309	24.157	-1.220	48.560	1.00	20.76	MTGL
ATOM	2428	CB	SER	309	23.424	0.022	49.092	1.00	21.48	MTGL
ATOM	2429	OG	SER	309	22.304	0.358	48.283	1.00	22.88	MTGL
ATOM	2430	C	SER	309	23.193	-2.404	48.517	1.00	22.16	MTGL
ATOM	2431	O	SER	309	22.754	-2.899	49.560	1.00	23.34	MTGL
ATOM	2432	N	CYS	310	22.852	-2.846	47.312	1.00	22.36	MTGL
ATOM	2433	CA	CYS	310	21.954	-3.987	47.159	1.00	23.23	MTGL
ATOM	2434	C	CYS	310	22.784	-5.265	47.300	1.00	23.23	MTGL
ATOM	2435	O	CYS	310	23.935	-5.300	46.877	1.00	25.45	MTGL

Fig. 1 cont.

ATOM	2436	CB	CYS	310	21.275	-3.945	45.793	1.00	23.30	MTGL
ATOM	2437	SG	CYS	310	19.871	-2.792	45.648	1.00	24.32	MTGL
ATOM	2438	N	ALA	311	22.197	-6.309	47.877	1.00	21.14	MTGL
ATOM	2439	CA	ALA	311	22.903	-7.564	48.110	1.00	20.13	MTGL
ATOM	2440	CB	ALA	311	22.076	-8.449	49.052	1.00	20.15	MTGL
ATOM	2441	C	ALA	311	23.335	-8.383	46.894	1.00	19.87	MTGL
ATOM	2442	O	ALA	311	24.442	-8.915	46.875	1.00	18.96	MTGL
ATOM	2443	N	ASP	312	22.482	-8.502	45.882	1.00	18.99	MTGL
ATOM	2444	CA	ASP	312	22.849	-9.313	44.723	1.00	19.21	MTGL
ATOM	2445	CB	ASP	312	22.346	-10.747	44.931	1.00	19.01	MTGL
ATOM	2446	CG	ASP	312	22.949	-11.733	43.946	1.00	19.92	MTGL
ATOM	2447	OD1	ASP	312	23.450	-11.305	42.884	1.00	19.68	MTGL
ATOM	2448	OD2	ASP	312	22.908	-12.948	44.230	1.00	20.69	MTGL
ATOM	2449	C	ASP	312	22.310	-8.772	43.403	1.00	18.27	MTGL
ATOM	2450	O	ASP	312	21.098	-8.692	43.205	1.00	18.94	MTGL
ATOM	2451	N	ASN	313	23.222	-8.418	42.500	1.00	17.28	MTGL
ATOM	2452	CA	ASN	313	22.855	-7.892	41.187	1.00	17.18	MTGL
ATOM	2453	CB	ASN	313	23.478	-6.507	40.962	1.00	16.90	MTGL
ATOM	2454	CG	ASN	313	22.860	-5.440	41.835	1.00	17.53	MTGL
ATOM	2455	OD1	ASN	313	21.636	-5.293	41.879	1.00	20.07	MTGL
ATOM	2456	ND2	ASN	313	23.704	-4.677	42.529	1.00	16.34	MTGL
ATOM	2457	C	ASN	313	23.305	-8.809	40.053	1.00	17.15	MTGL
ATOM	2458	O	ASN	313	23.190	-8.452	38.881	1.00	17.24	MTGL
ATOM	2459	N	THR	314	23.826	-9.982	40.391	1.00	15.74	MTGL
ATOM	2460	CA	THR	314	24.289	-10.903	39.365	1.00	15.54	MTGL
ATOM	2461	CB	THR	314	25.226	-11.977	39.953	1.00	15.83	MTGL
ATOM	2462	OG1	THR	314	24.502	-12.779	40.894	1.00	16.12	MTGL
ATOM	2463	CG2	THR	314	26.418	-11.322	40.651	1.00	14.76	MTGL
ATOM	2464	C	THR	314	23.130	-11.604	38.657	1.00	16.42	MTGL
ATOM	2465	O	THR	314	21.972	-11.525	39.087	1.00	15.23	MTGL
ATOM	2466	N	MET	315	23.453	-12.273	37.555	1.00	16.30	MTGL
ATOM	2467	CA	MET	315	22.458	-13.006	36.776	1.00	17.57	MTGL
ATOM	2468	CB	MET	315	22.390	-12.447	35.350	1.00	16.92	MTGL
ATOM	2469	CG	MET	315	21.934	-10.997	35.281	1.00	16.10	MTGL
ATOM	2470	SD	MET	315	21.871	-10.343	33.592	1.00	18.97	MTGL
ATOM	2471	CE	MET	315	20.232	-10.916	33.083	1.00	14.39	MTGL
ATOM	2472	C	MET	315	22.820	-14.492	36.753	1.00	17.49	MTGL
ATOM	2473	O	MET	315	22.404	-15.234	35.871	1.00	17.40	MTGL
ATOM	2474	N	PHE	316	23.614	-14.905	37.736	1.00	17.70	MTGL
ATOM	2475	CA	PHE	316	24.050	-16.291	37.879	1.00	18.51	MTGL
ATOM	2476	CB	PHE	316	25.521	-16.451	37.482	1.00	16.98	MTGL
ATOM	2477	CG	PHE	316	25.760	-16.485	35.995	1.00	17.56	MTGL
ATOM	2478	CD1	PHE	316	25.616	-15.337	35.220	1.00	17.13	MTGL
ATOM	2479	CD2	PHE	316	26.124	-17.671	35.370	1.00	16.95	MTGL
ATOM	2480	CE1	PHE	316	25.845	-15.370	33.845	1.00	17.76	MTGL
ATOM	2481	CE2	PHE	316	26.355	-17.717	33.993	1.00	17.39	MTGL
ATOM	2482	CZ	PHE	316	26.212	-16.566	33.227	1.00	16.28	MTGL
ATOM	2483	C	PHE	316	23.891	-16.679	39.344	1.00	19.70	MTGL
ATOM	2484	O	PHE	316	23.980	-15.825	40.229	1.00	19.34	MTGL
ATOM	2485	N	SER	317	23.659	-17.963	39.598	1.00	19.30	MTGL
ATOM	2486	CA	SER	317	23.495	-18.444	40.963	1.00	20.50	MTGL
ATOM	2487	CB	SER	317	22.894	-19.853	40.972	1.00	19.80	MTGL
ATOM	2488	OG	SER	317	23.832	-20.798	40.484	1.00	18.89	MTGL
ATOM	2489	C	SER	317	24.860	-18.479	41.633	1.00	20.89	MTGL
ATOM	2490	O	SER	317	25.895	-18.352	40.973	1.00	19.59	MTGL
ATOM	2491	N	GLN	318	24.857	-18.659	42.946	1.00	21.68	MTGL
ATOM	2492	CA	GLN	318	26.104	-18.711	43.685	1.00	22.69	MTGL
ATOM	2493	CB	GLN	318	25.813	-18.649	45.186	1.00	23.06	MTGL

Fig. 1 cont.

ATOM	2494	CG	GLN	318	25.363	-17.254	45.625	1.00	24.34	MTGL
ATOM	2495	CD	GLN	318	26.459	-16.209	45.445	1.00	25.12	MTGL
ATOM	2496	OE1	GLN	318	27.473	-16.241	46.142	1.00	27.51	MTGL
ATOM	2497	NE2	GLN	318	26.266	-15.287	44.503	1.00	23.16	MTGL
ATOM	2498	C	GLN	318	26.920	-19.947	43.315	1.00	22.71	MTGL
ATOM	2499	O	GLN	318	28.095	-20.052	43.662	1.00	24.10	MTGL
ATOM	2500	N	SER	319	26.307	-20.875	42.588	1.00	22.97	MTGL
ATOM	2501	CA	SER	319	27.022	-22.074	42.160	1.00	23.61	MTGL
ATOM	2502	CB	SER	319	26.112	-23.306	42.235	1.00	24.83	MTGL
ATOM	2503	OG	SER	319	24.914	-23.111	41.500	1.00	28.30	MTGL
ATOM	2504	C	SER	319	27.553	-21.900	40.737	1.00	23.21	MTGL
ATOM	2505	O	SER	319	28.158	-22.814	40.180	1.00	23.75	MTGL
ATOM	2506	N	GLY	320	27.315	-20.726	40.153	1.00	22.56	MTGL
ATOM	2507	CA	GLY	320	27.798	-20.439	38.811	1.00	22.10	MTGL
ATOM	2508	C	GLY	320	26.851	-20.771	37.670	1.00	22.30	MTGL
ATOM	2509	O	GLY	320	27.262	-20.809	36.504	1.00	22.30	MTGL
ATOM	2510	N	GLN	321	25.582	-21.009	37.984	1.00	21.21	MTGL
ATOM	2511	CA	GLN	321	24.618	-21.337	36.941	1.00	21.36	MTGL
ATOM	2512	CB	GLN	321	23.652	-22.415	37.426	1.00	23.27	MTGL
ATOM	2513	CG	GLN	321	22.649	-22.855	36.371	1.00	24.43	MTGL
ATOM	2514	CD	GLN	321	21.803	-24.021	36.833	1.00	26.48	MTGL
ATOM	2515	OE1	GLN	321	22.320	-25.009	37.347	1.00	27.39	MTGL
ATOM	2516	NE2	GLN	321	20.497	-23.920	36.641	1.00	27.02	MTGL
ATOM	2517	C	GLN	321	23.826	-20.121	36.483	1.00	20.04	MTGL
ATOM	2518	O	GLN	321	23.289	-19.371	37.291	1.00	19.56	MTGL
ATOM	2519	N	ALA	322	23.755	-19.939	35.172	1.00	20.60	MTGL
ATOM	2520	CA	ALA	322	23.028	-18.817	34.596	1.00	20.07	MTGL
ATOM	2521	CB	ALA	322	23.129	-18.864	33.079	1.00	18.41	MTGL
ATOM	2522	C	ALA	322	21.565	-18.855	35.017	1.00	20.05	MTGL
ATOM	2523	O	ALA	322	20.921	-19.901	34.945	1.00	19.07	MTGL
ATOM	2524	N	LEU	323	21.052	-17.713	35.464	0.50	19.28	MTGL
ATOM	2525	CA	LEU	323	19.658	-17.611	35.878	0.50	19.33	MTGL
ATOM	2526	CB	LEU	323	19.470	-16.426	36.830	0.50	18.12	MTGL
ATOM	2527	CG	LEU	323	20.241	-16.493	38.152	0.50	17.16	MTGL
ATOM	2528	CD1	LEU	323	19.944	-15.244	38.979	0.50	16.83	MTGL
ATOM	2529	CD2	LEU	323	19.844	-17.758	38.920	0.50	16.13	MTGL
ATOM	2530	C	LEU	323	18.779	-17.431	34.645	0.50	19.86	MTGL
ATOM	2531	O	LEU	323	19.270	-17.113	33.561	0.50	19.75	MTGL
ATOM	2532	N	SER	324	17.477	-17.630	34.817	1.00	21.01	MTGL
ATOM	2533	CA	SER	324	16.524	-17.511	33.719	1.00	21.34	MTGL
ATOM	2534	CB	SER	324	15.114	-17.827	34.220	1.00	21.65	MTGL
ATOM	2535	OG	SER	324	14.713	-16.887	35.202	1.00	22.41	MTGL
ATOM	2536	C	SER	324	16.529	-16.130	33.075	1.00	21.33	MTGL
ATOM	2537	O	SER	324	16.159	-15.980	31.913	1.00	20.59	MTGL
ATOM	2538	N	SER	325	16.955	-15.123	33.830	1.00	20.04	MTGL
ATOM	2539	CA	SER	325	16.984	-13.759	33.321	1.00	20.07	MTGL
ATOM	2540	CB	SER	325	17.227	-12.780	34.476	1.00	19.69	MTGL
ATOM	2541	OG	SER	325	18.417	-13.106	35.172	1.00	17.73	MTGL
ATOM	2542	C	SER	325	18.012	-13.515	32.213	1.00	20.16	MTGL
ATOM	2543	O	SER	325	17.892	-12.549	31.460	1.00	19.87	MTGL
ATOM	2544	N	LEU	326	19.010	-14.388	32.104	1.00	19.54	MTGL
ATOM	2545	CA	LEU	326	20.048	-14.230	31.085	1.00	19.73	MTGL
ATOM	2546	CB	LEU	326	21.126	-15.314	31.236	1.00	20.49	MTGL
ATOM	2547	CG	LEU	326	22.606	-14.910	31.307	1.00	22.10	MTGL
ATOM	2548	CD1	LEU	326	23.433	-15.966	30.587	1.00	21.95	MTGL
ATOM	2549	CD2	LEU	326	22.848	-13.551	30.678	1.00	22.81	MTGL
ATOM	2550	C	LEU	326	19.519	-14.274	29.646	1.00	19.72	MTGL
ATOM	2551	O	LEU	326	20.094	-13.655	28.754	1.00	19.08	MTGL

Fig. 1 cont.

ATOM	2552	N	SER	327	18.439	-15.015	29.412	1.00	18.98	MTGL
ATOM	2553	CA	SER	327	17.875	-15.133	28.067	1.00	18.71	MTGL
ATOM	2554	CB	SER	327	16.861	-16.271	28.023	1.00	17.52	MTGL
ATOM	2555	OG	SER	327	15.740	-15.947	28.825	1.00	16.77	MTGL
ATOM	2556	C	SER	327	17.191	-13.851	27.585	1.00	18.81	MTGL
ATOM	2557	O	SER	327	16.698	-13.795	26.459	1.00	18.63	MTGL
ATOM	2558	N	VAL	328	17.140	-12.836	28.440	1.00	18.22	MTGL
ATOM	2559	CA	VAL	328	16.517	-11.573	28.066	1.00	18.51	MTGL
ATOM	2560	CB	VAL	328	16.590	-10.545	29.223	1.00	19.11	MTGL
ATOM	2561	CG1	VAL	328	18.046	-10.177	29.509	1.00	17.14	MTGL
ATOM	2562	CG2	VAL	328	15.777	-9.304	28.868	1.00	19.04	MTGL
ATOM	2563	C	VAL	328	17.210	-10.983	26.839	1.00	19.25	MTGL
ATOM	2564	O	VAL	328	16.589	-10.285	26.039	1.00	18.81	MTGL
ATOM	2565	N	PHE	329	18.498	-11.273	26.685	1.00	20.22	MTGL
ATOM	2566	CA	PHE	329	19.258	-10.752	25.550	1.00	22.10	MTGL
ATOM	2567	CB	PHE	329	20.752	-10.989	25.774	1.00	21.20	MTGL
ATOM	2568	CG	PHE	329	21.307	-10.211	26.929	1.00	21.71	MTGL
ATOM	2569	CD1	PHE	329	21.525	-8.842	26.814	1.00	21.66	MTGL
ATOM	2570	CD2	PHE	329	21.551	-10.831	28.151	1.00	20.67	MTGL
ATOM	2571	CE1	PHE	329	21.979	-8.099	27.901	1.00	22.16	MTGL
ATOM	2572	CE2	PHE	329	22.003	-10.098	29.240	1.00	22.03	MTGL
ATOM	2573	CZ	PHE	329	22.215	-8.728	29.114	1.00	22.57	MTGL
ATOM	2574	C	PHE	329	18.815	-11.340	24.212	1.00	23.27	MTGL
ATOM	2575	O	PHE	329	19.267	-10.904	23.152	1.00	23.56	MTGL
ATOM	2576	N	GLN	330	17.927	-12.326	24.267	1.00	23.16	MTGL
ATOM	2577	CA	GLN	330	17.402	-12.950	23.058	1.00	24.83	MTGL
ATOM	2578	CB	GLN	330	16.994	-14.403	23.333	1.00	25.48	MTGL
ATOM	2579	CG	GLN	330	18.138	-15.371	23.573	1.00	25.89	MTGL
ATOM	2580	CD	GLN	330	17.648	-16.773	23.894	1.00	27.09	MTGL
ATOM	2581	OE1	GLN	330	18.390	-17.748	23.750	1.00	29.08	MTGL
ATOM	2582	NE2	GLN	330	16.400	-16.882	24.343	1.00	24.64	MTGL
ATOM	2583	C	GLN	330	16.157	-12.198	22.596	1.00	25.46	MTGL
ATOM	2584	O	GLN	330	15.651	-12.439	21.502	1.00	25.45	MTGL
ATOM	2585	N	ARG	331	15.669	-11.282	23.426	1.00	25.05	MTGL
ATOM	2586	CA	ARG	331	14.443	-10.573	23.094	1.00	25.37	MTGL
ATOM	2587	CB	ARG	331	13.356	-10.991	24.087	1.00	24.60	MTGL
ATOM	2588	CG	ARG	331	13.223	-12.507	24.246	1.00	25.96	MTGL
ATOM	2589	CD	ARG	331	12.110	-12.882	25.220	1.00	26.44	MTGL
ATOM	2590	NE	ARG	331	12.400	-12.493	26.600	1.00	27.25	MTGL
ATOM	2591	CZ	ARG	331	13.123	-13.218	27.451	1.00	27.98	MTGL
ATOM	2592	NH1	ARG	331	13.637	-14.383	27.073	1.00	26.83	MTGL
ATOM	2593	NH2	ARG	331	13.329	-12.777	28.683	1.00	26.92	MTGL
ATOM	2594	C	ARG	331	14.506	-9.049	23.017	1.00	25.38	MTGL
ATOM	2595	O	ARG	331	13.468	-8.391	23.085	1.00	25.25	MTGL
ATOM	2596	N	ILE	332	15.703	-8.487	22.863	1.00	25.52	MTGL
ATOM	2597	CA	ILE	332	15.847	-7.035	22.779	1.00	26.69	MTGL
ATOM	2598	CB	ILE	332	16.510	-6.459	24.049	1.00	26.08	MTGL
ATOM	2599	CG2	ILE	332	15.646	-6.765	25.269	1.00	25.81	MTGL
ATOM	2600	CG1	ILE	332	17.912	-7.047	24.224	1.00	25.06	MTGL
ATOM	2601	CD1	ILE	332	18.663	-6.506	25.425	1.00	23.51	MTGL
ATOM	2602	C	ILE	332	16.664	-6.599	21.567	1.00	27.88	MTGL
ATOM	2603	O	ILE	332	17.171	-7.485	20.855	1.00	28.65	MTGL
ATOM	2604	OXT	ILE	332	16.787	-5.372	21.344	1.00	30.38	MTGL
END										

Fig. 1 cont.

46/174

HEADER							HIGL	
ATOM	1 CB	ALA	1	6.247	74.348	114.849	1.00	27.43
ATOM	2 C	ALA	1	7.283	72.458	113.617	1.00	26.21
ATOM	3 O	ALA	1	6.683	72.007	112.638	1.00	26.69
ATOM	4 N	ALA	1	7.237	74.771	112.633	1.00	26.59
ATOM	5 CA	ALA	1	7.343	73.961	113.883	1.00	26.86
ATOM	6 N	LEU	2	7.883	71.693	114.524	1.00	24.15
ATOM	7 CA	LEU	2	7.971	70.244	114.405	1.00	22.16
ATOM	8 CB	LEU	2	8.883	69.700	115.498	1.00	21.06
ATOM	9 CG	LEU	2	10.274	70.334	115.565	1.00	20.32
ATOM	10 CD1	LEU	2	10.966	69.921	116.848	1.00	19.78
ATOM	11 CD2	LEU	2	11.076	69.921	114.346	1.00	20.05
ATOM	12 C	LEU	2	6.663	69.471	114.429	1.00	22.53
ATOM	13 O	LEU	2	5.748	69.767	115.202	1.00	23.10
ATOM	14 N	GLN	3	6.597	68.456	113.576	1.00	21.51
ATOM	15 CA	GLN	3	5.430	67.601	113.493	1.00	20.06
ATOM	16 CB	GLN	3	5.435	66.837	112.175	1.00	18.80
ATOM	17 CG	GLN	3	4.157	66.084	111.909	1.00	19.14
ATOM	18 CD	GLN	3	4.246	65.213	110.680	1.00	19.73
ATOM	19 OE1	GLN	3	4.884	65.577	109.689	1.00	21.27
ATOM	20 NE2	GLN	3	3.594	64.062	110.728	1.00	18.71
ATOM	21 C	GLN	3	5.504	66.609	114.644	1.00	19.78
ATOM	22 O	GLN	3	4.513	66.342	115.324	1.00	20.14
ATOM	23 N	TYR	4	6.696	66.060	114.849	1.00	19.50
ATOM	24 CA	TYR	4	6.920	65.083	115.902	1.00	19.32
ATOM	25 CB	TYR	4	7.614	63.849	115.328	1.00	18.96
ATOM	26 CG	TYR	4	6.913	63.222	114.145	1.00	19.19
ATOM	27 CD1	TYR	4	5.639	62.669	114.271	1.00	19.50
ATOM	28 CE1	TYR	4	5.019	62.033	113.199	1.00	18.39
ATOM	29 CD2	TYR	4	7.546	63.131	112.909	1.00	19.30
ATOM	30 CE2	TYR	4	6.935	62.497	111.831	1.00	19.42
ATOM	31 CZ	TYR	4	5.672	61.947	111.984	1.00	19.38
ATOM	32 OH	TYR	4	5.083	61.288	110.922	1.00	18.91
ATOM	33 C	TYR	4	7.790	65.686	117.000	1.00	19.57
ATOM	34 O	TYR	4	8.954	66.022	116.776	1.00	19.37
ATOM	35 N	LYS	5	7.220	65.845	118.185	1.00	19.13
ATOM	36 CA	LYS	5	7.980	66.388	119.293	1.00	19.83
ATOM	37 CB	LYS	5	7.666	67.874	119.495	1.00	21.28
ATOM	38 CG	LYS	5	6.198	68.219	119.599	1.00	23.14
ATOM	39 CD	LYS	5	6.031	69.730	119.695	1.00	25.10
ATOM	40 CE	LYS	5	4.563	70.143	119.714	1.00	25.68
ATOM	41 NZ	LYS	5	4.438	71.621	119.884	1.00	27.35
ATOM	42 C	LYS	5	7.661	65.589	120.539	1.00	19.09
ATOM	43 O	LYS	5	6.537	65.616	121.043	1.00	20.34
ATOM	44 N	GLY	6	8.653	64.858	121.027	1.00	17.54
ATOM	45 CA	GLY	6	8.428	64.050	122.203	1.00	16.41
ATOM	46 C	GLY	6	9.685	63.574	122.897	1.00	15.75
ATOM	47 O	GLY	6	10.779	64.112	122.698	1.00	15.49
ATOM	48 N	VAL	7	9.518	62.548	123.721	1.00	14.73
ATOM	49 CA	VAL	7	10.623	61.996	124.470	1.00	14.42
ATOM	50 CB	VAL	7	10.518	62.373	125.963	1.00	15.12
ATOM	51 CG1	VAL	7	10.337	63.879	126.121	1.00	15.55
ATOM	52 CG2	VAL	7	9.361	61.620	126.605	1.00	14.47
ATOM	53 C	VAL	7	10.629	60.481	124.392	1.00	13.95
ATOM	54 O	VAL	7	9.650	59.863	123.979	1.00	13.25
ATOM	55 N	ASP	8	11.753	59.895	124.784	1.00	13.51
ATOM	56 CA	ASP	8	11.863	58.452	124.844	1.00	13.71
ATOM	57 CB	ASP	8	13.263	57.981	124.473	1.00	13.57
ATOM	58 CG	ASP	8	13.354	56.480	124.393	1.00	13.68
ATOM	59 OD1	ASP	8	12.912	55.814	125.353	1.00	13.24
ATOM	60 OD2	ASP	8	13.861	55.967	123.373	1.00	14.72
ATOM	61 C	ASP	8	11.626	58.233	126.324	1.00	13.84
ATOM	62 O	ASP	8	12.391	58.735	127.156	1.00	13.94
ATOM	63 N	TRP	9	10.562	57.510	126.658	1.00	13.89
ATOM	64 CA	TRP	9	10.207	57.280	128.059	1.00	13.87

Fig. 2

47/174

PVS

ATOM	65	CB	TRP	9	8.822	57.889	128.324	1.00	11.91	HIGL
ATOM	66	CG	TRP	9	7.684	57.044	127.823	1.00	12.26	HIGL
ATOM	67	CD2	TRP	9	6.406	56.867	128.448	1.00	12.11	HIGL
ATOM	68	CE2	TRP	9	5.670	55.963	127.647	1.00	12.19	HIGL
ATOM	69	CE3	TRP	9	5.809	57.383	129.609	1.00	11.70	HIGL
ATOM	70	CD1	TRP	9	7.668	56.268	126.696	1.00	11.92	HIGL
ATOM	71	NE1	TRP	9	6.466	55.614	126.586	1.00	11.76	HIGL
ATOM	72	CZ2	TRP	9	4.365	55.562	127.968	1.00	11.52	HIGL
ATOM	73	CZ3	TRP	9	4.510	56.986	129.930	1.00	11.57	HIGL
ATOM	74	CH2	TRP	9	3.804	56.085	129.111	1.00	11.64	HIGL
ATOM	75	C	TRP	9	10.212	55.798	128.440	1.00	14.10	HIGL
ATOM	76	O	TRP	9	9.551	55.392	129.392	1.00	15.49	HIGL
ATOM	77	N	SER	10	10.984	55.002	127.713	1.00	14.17	HIGL
ATOM	78	CA	SER	10	11.051	53.561	127.939	1.00	14.00	HIGL
ATOM	79	CB	SER	10	12.154	52.958	127.056	1.00	14.22	HIGL
ATOM	80	OG	SER	10	11.946	53.282	125.685	1.00	12.67	HIGL
ATOM	81	C	SER	10	11.232	53.095	129.385	1.00	13.46	HIGL
ATOM	82	O	SER	10	10.652	52.096	129.794	1.00	13.12	HIGL
ATOM	83	N	SER	11	12.021	53.821	130.162	1.00	13.49	HIGL
ATOM	84	CA	SER	11	12.281	53.437	131.542	1.00	13.65	HIGL
ATOM	85	CB	SER	11	13.490	54.200	132.051	1.00	12.96	HIGL
ATOM	86	OG	SER	11	13.175	55.576	132.142	1.00	11.73	HIGL
ATOM	87	C	SER	11	11.134	53.664	132.524	1.00	15.06	HIGL
ATOM	88	O	SER	11	11.192	53.198	133.667	1.00	15.59	HIGL
ATOM	89	N	VAL	12	10.090	54.357	132.089	1.00	15.52	HIGL
ATOM	90	CA	VAL	12	8.987	54.682	132.983	1.00	16.34	HIGL
ATOM	91	CB	VAL	12	7.793	55.248	132.197	1.00	16.01	HIGL
ATOM	92	CG1	VAL	12	7.264	54.205	131.248	1.00	16.29	HIGL
ATOM	93	CG2	VAL	12	6.714	55.720	133.159	1.00	15.28	HIGL
ATOM	94	C	VAL	12	8.485	53.594	133.945	1.00	17.29	HIGL
ATOM	95	O	VAL	12	8.361	53.855	135.143	1.00	18.04	HIGL
ATOM	96	N	MET	13	8.197	52.390	133.457	1.00	17.84	HIGL
ATOM	97	CA	MET	13	7.695	51.346	134.355	1.00	17.96	HIGL
ATOM	98	CB	MET	13	7.044	50.203	133.568	1.00	17.95	HIGL
ATOM	99	CG	MET	13	5.703	50.579	132.968	1.00	19.53	HIGL
ATOM	100	SD	MET	13	4.678	49.147	132.593	1.00	23.13	HIGL
ATOM	101	CE	MET	13	5.559	48.452	131.185	1.00	23.08	HIGL
ATOM	102	C	MET	13	8.756	50.788	135.290	1.00	17.76	HIGL
ATOM	103	O	MET	13	8.456	50.415	136.420	1.00	17.26	HIGL
ATOM	104	N	VAL	14	9.994	50.723	134.817	1.00	17.91	HIGL
ATOM	105	CA	VAL	14	11.082	50.225	135.640	1.00	17.21	HIGL
ATOM	106	CB	VAL	14	12.413	50.169	134.845	1.00	16.85	HIGL
ATOM	107	CG1	VAL	14	13.559	49.837	135.761	1.00	13.37	HIGL
ATOM	108	CG2	VAL	14	12.311	49.128	133.741	1.00	15.66	HIGL
ATOM	109	C	VAL	14	11.212	51.187	136.809	1.00	17.76	HIGL
ATOM	110	O	VAL	14	11.455	50.774	137.945	1.00	18.17	HIGL
ATOM	111	N	GLU	15	11.031	52.473	136.533	1.00	18.10	HIGL
ATOM	112	CA	GLU	15	11.120	53.476	137.586	1.00	19.10	HIGL
ATOM	113	CB	GLU	15	11.207	54.881	136.991	1.00	19.32	HIGL
ATOM	114	CG	GLU	15	12.554	55.178	136.365	1.00	20.08	HIGL
ATOM	115	CD	GLU	15	13.676	55.158	137.383	1.00	21.57	HIGL
ATOM	116	OE1	GLU	15	13.838	54.131	138.076	1.00	22.32	HIGL
ATOM	117	OE2	GLU	15	14.398	56.171	137.492	1.00	22.71	HIGL
ATOM	118	C	GLU	15	9.937	53.387	138.539	1.00	19.39	HIGL
ATOM	119	O	GLU	15	10.107	53.492	139.757	1.00	19.72	HIGL
ATOM	120	N	GLU	16	8.740	53.196	137.992	1.00	19.13	HIGL
ATOM	121	CA	GLU	16	7.562	53.084	138.839	1.00	19.39	HIGL
ATOM	122	CB	GLU	16	6.289	52.932	137.996	1.00	18.72	HIGL
ATOM	123	CG	GLU	16	5.945	54.180	137.193	1.00	19.94	HIGL
ATOM	124	CD	GLU	16	4.840	53.959	136.159	1.00	21.79	HIGL
ATOM	125	OE1	GLU	16	4.817	52.881	135.521	1.00	22.23	HIGL
ATOM	126	OE2	GLU	16	4.003	54.874	135.966	1.00	21.65	HIGL
ATOM	127	C	GLU	16	7.759	51.885	139.761	1.00	19.47	HIGL
ATOM	128	O	GLU	16	7.547	51.989	140.969	1.00	19.63	HIGL
ATOM	129	N	ARG	17	8.190	50.756	139.202	1.00	19.74	HIGL

Fig. 2 cont.

48/174

ATOM	130	CA	ARG	17	8.416	49.562	140.014	1.00	20.25	HIGL
ATOM	131	CB	ARG	17	8.911	48.392	139.164	1.00	21.03	HIGL
ATOM	132	CG	ARG	17	7.873	47.765	138.257	1.00	23.68	HIGL
ATOM	133	CD	ARG	17	8.178	46.286	138.053	1.00	27.08	HIGL
ATOM	134	NE	ARG	17	7.410	45.701	136.956	1.00	31.03	HIGL
ATOM	135	CZ	ARG	17	7.660	45.919	135.664	1.00	32.87	HIGL
ATOM	136	NH1	ARG	17	8.666	46.709	135.299	1.00	32.97	HIGL
ATOM	137	NH2	ARG	17	6.902	45.352	134.731	1.00	33.75	HIGL
ATOM	138	C	ARG	17	9.445	49.840	141.104	1.00	19.92	HIGL
ATOM	139	O	ARG	17	9.443	49.198	142.151	1.00	20.42	HIGL
ATOM	140	N	ALA	18	10.325	50.801	140.850	1.00	19.29	HIGL
ATOM	141	CA	ALA	18	11.357	51.153	141.811	1.00	17.90	HIGL
ATOM	142	CB	ALA	18	12.584	51.698	141.086	1.00	17.12	HIGL
ATOM	143	C	ALA	18	10.846	52.168	142.830	1.00	17.59	HIGL
ATOM	144	O	ALA	18	11.611	52.653	143.669	1.00	16.93	HIGL
ATOM	145	N	GLY	19	9.557	52.494	142.745	1.00	16.98	HIGL
ATOM	146	CA	GLY	19	8.963	53.424	143.687	1.00	16.15	HIGL
ATOM	147	C	GLY	19	8.935	54.890	143.298	1.00	16.93	HIGL
ATOM	148	O	GLY	19	8.543	55.734	144.104	1.00	17.33	HIGL
ATOM	149	N	VAL	20	9.333	55.209	142.072	1.00	17.17	HIGL
ATOM	150	CA	VAL	20	9.336	56.598	141.626	1.00	17.58	HIGL
ATOM	151	CB	VAL	20	10.148	56.764	140.330	1.00	17.22	HIGL
ATOM	152	CG1	VAL	20	10.013	58.190	139.814	1.00	16.00	HIGL
ATOM	153	CG2	VAL	20	11.609	56.419	140.584	1.00	17.68	HIGL
ATOM	154	C	VAL	20	7.945	57.167	141.370	1.00	17.79	HIGL
ATOM	155	O	VAL	20	7.084	56.490	140.826	1.00	18.75	HIGL
ATOM	156	N	ARG	21	7.740	58.420	141.760	1.00	17.99	HIGL
ATOM	157	CA	ARG	21	6.470	59.106	141.537	1.00	18.92	HIGL
ATOM	158	CB	ARG	21	5.775	59.399	142.862	1.00	19.66	HIGL
ATOM	159	CG	ARG	21	5.367	58.155	143.617	1.00	20.84	HIGL
ATOM	160	CD	ARG	21	4.245	57.425	142.917	1.00	21.60	HIGL
ATOM	161	NE	ARG	21	3.389	56.783	143.906	1.00	23.75	HIGL
ATOM	162	CZ	ARG	21	3.734	55.707	144.598	1.00	23.89	HIGL
ATOM	163	NH1	ARG	21	4.920	55.148	144.389	1.00	25.67	HIGL
ATOM	164	NH2	ARG	21	2.911	55.215	145.516	1.00	22.10	HIGL
ATOM	165	C	ARG	21	6.749	60.412	140.809	1.00	18.45	HIGL
ATOM	166	O	ARG	21	7.598	61.198	141.231	1.00	18.88	HIGL
ATOM	167	N	TYR	22	6.032	60.640	139.717	1.00	17.66	HIGL
ATOM	168	CA	TYR	22	6.221	61.846	138.920	1.00	16.70	HIGL
ATOM	169	CB	TYR	22	6.236	61.480	137.438	1.00	15.81	HIGL
ATOM	170	CG	TYR	22	7.402	60.608	137.038	1.00	16.16	HIGL
ATOM	171	CD1	TYR	22	8.706	61.124	136.998	1.00	14.69	HIGL
ATOM	172	CE1	TYR	22	9.790	60.322	136.647	1.00	14.60	HIGL
ATOM	173	CD2	TYR	22	7.211	59.260	136.715	1.00	15.58	HIGL
ATOM	174	CE2	TYR	22	8.294	58.442	136.361	1.00	16.20	HIGL
ATOM	175	CZ	TYR	22	9.582	58.980	136.330	1.00	15.43	HIGL
ATOM	176	OH	TYR	22	10.648	58.178	135.994	1.00	12.55	HIGL
ATOM	177	C	TYR	22	5.156	62.903	139.166	1.00	17.06	HIGL
ATOM	178	O	TYR	22	4.008	62.591	139.482	1.00	17.73	HIGL
ATOM	179	N	LYS	23	5.545	64.160	139.011	1.00	17.11	HIGL
ATOM	180	CA	LYS	23	4.631	65.279	139.191	1.00	17.49	HIGL
ATOM	181	CB	LYS	23	4.813	65.913	140.575	1.00	18.19	HIGL
ATOM	182	CG	LYS	23	4.800	64.938	141.748	1.00	19.57	HIGL
ATOM	183	CD	LYS	23	6.141	64.239	141.933	1.00	18.82	HIGL
ATOM	184	CE	LYS	23	6.061	63.255	143.085	1.00	18.77	HIGL
ATOM	185	NZ	LYS	23	7.366	62.602	143.352	1.00	19.04	HIGL
ATOM	186	C	LYS	23	4.975	66.318	138.137	1.00	17.45	HIGL
ATOM	187	O	LYS	23	6.098	66.342	137.640	1.00	17.10	HIGL
ATOM	188	N	ASN	24	4.021	67.171	137.786	1.00	17.71	HIGL
ATOM	189	CA	ASN	24	4.315	68.221	136.823	1.00	17.61	HIGL
ATOM	190	CB	ASN	24	3.029	68.792	136.210	1.00	17.78	HIGL
ATOM	191	CG	ASN	24	1.986	69.174	137.252	1.00	17.86	HIGL
ATOM	192	OD1	ASN	24	2.314	69.585	138.368	1.00	18.49	HIGL
ATOM	193	ND2	ASN	24	0.717	69.061	136.876	1.00	17.05	HIGL
ATOM	194	C	ASN	24	5.081	69.294	137.597	1.00	17.97	HIGL

Fig. 2 cont.

49/174

ATOM	195	O	ASN	24	5.481	69.060	138.739	1.00	16.84	HIGL
ATOM	196	N	VAL	25	5.285	70.462	136.994	1.00	19.12	HIGL
ATOM	197	CA	VAL	25	6.033	71.537	137.660	1.00	20.42	HIGL
ATOM	198	CB	VAL	25	6.164	72.813	136.789	1.00	20.47	HIGL
ATOM	199	CG1	VAL	25	7.591	73.345	136.856	1.00	18.59	HIGL
ATOM	200	CG2	VAL	25	5.749	72.534	135.377	1.00	21.79	HIGL
ATOM	201	C	VAL	25	5.399	72.009	138.957	1.00	20.49	HIGL
ATOM	202	O	VAL	25	6.071	72.577	139.812	1.00	19.69	HIGL
ATOM	203	N	ASN	26	4.101	71.782	139.094	1.00	21.96	HIGL
ATOM	204	CA	ASN	26	3.375	72.242	140.271	1.00	22.88	HIGL
ATOM	205	CB	ASN	26	1.979	72.686	139.841	1.00	23.37	HIGL
ATOM	206	CG	ASN	26	2.026	73.861	138.879	1.00	24.96	HIGL
ATOM	207	OD1	ASN	26	1.188	73.986	137.980	1.00	26.06	HIGL
ATOM	208	ND2	ASN	26	3.009	74.739	139.071	1.00	24.54	HIGL
ATOM	209	C	ASN	26	3.295	71.249	141.418	1.00	22.79	HIGL
ATOM	210	O	ASN	26	2.669	71.529	142.441	1.00	23.56	HIGL
ATOM	211	N	GLY	27	3.933	70.095	141.250	1.00	22.15	HIGL
ATOM	212	CA	GLY	27	3.932	69.094	142.299	1.00	20.67	HIGL
ATOM	213	C	GLY	27	2.743	68.157	142.290	1.00	19.93	HIGL
ATOM	214	O	GLY	27	2.574	67.357	143.214	1.00	20.18	HIGL
ATOM	215	N	GLN	28	1.912	68.247	141.258	1.00	19.35	HIGL
ATOM	216	CA	GLN	28	0.748	67.376	141.164	1.00	19.04	HIGL
ATOM	217	CB	GLN	28	-0.314	68.025	140.274	1.00	19.46	HIGL
ATOM	218	CG	GLN	28	-1.579	67.207	140.102	1.00	19.85	HIGL
ATOM	219	CD	GLN	28	-2.666	67.970	139.363	1.00	21.15	HIGL
ATOM	220	OE1	GLN	28	-2.425	68.547	138.299	1.00	21.73	HIGL
ATOM	221	NE2	GLN	28	-3.871	67.971	139.921	1.00	20.85	HIGL
ATOM	222	C	GLN	28	1.164	66.009	140.607	1.00	18.84	HIGL
ATOM	223	O	GLN	28	1.602	65.901	139.464	1.00	18.45	HIGL
ATOM	224	N	GLU	29	1.038	64.973	141.432	1.00	18.66	HIGL
ATOM	225	CA	GLU	29	1.402	63.619	141.042	1.00	18.76	HIGL
ATOM	226	CB	GLU	29	1.487	62.730	142.287	1.00	18.41	HIGL
ATOM	227	CG	GLU	29	1.966	61.316	141.998	1.00	19.70	HIGL
ATOM	228	CD	GLU	29	2.223	60.504	143.252	1.00	21.17	HIGL
ATOM	229	OE1	GLU	29	2.828	61.042	144.204	1.00	22.90	HIGL
ATOM	230	OE2	GLU	29	1.836	59.318	143.285	1.00	21.00	HIGL
ATOM	231	C	GLU	29	0.412	63.005	140.045	1.00	18.74	HIGL
ATOM	232	O	GLU	29	-0.793	63.133	140.205	1.00	20.35	HIGL
ATOM	233	N	LYS	30	0.929	62.357	139.007	1.00	18.03	HIGL
ATOM	234	CA	LYS	30	0.096	61.696	137.997	1.00	18.21	HIGL
ATOM	235	CB	LYS	30	-0.563	62.702	137.038	1.00	18.37	HIGL
ATOM	236	CG	LYS	30	-0.511	64.151	137.467	1.00	19.45	HIGL
ATOM	237	CD	LYS	30	-0.017	65.012	136.323	1.00	19.01	HIGL
ATOM	238	CE	LYS	30	-1.150	65.659	135.558	1.00	19.86	HIGL
ATOM	239	NZ	LYS	30	-1.471	67.014	136.095	1.00	19.22	HIGL
ATOM	240	C	LYS	30	0.999	60.777	137.179	1.00	17.33	HIGL
ATOM	241	O	LYS	30	2.227	60.837	137.297	1.00	18.02	HIGL
ATOM	242	N	PRO	31	0.404	59.905	136.353	1.00	16.17	HIGL
ATOM	243	CD	PRO	31	-1.032	59.580	136.274	1.00	16.56	HIGL
ATOM	244	CA	PRO	31	1.201	58.991	135.525	1.00	15.20	HIGL
ATOM	245	CB	PRO	31	0.147	58.122	134.854	1.00	15.51	HIGL
ATOM	246	CG	PRO	31	-1.001	58.135	135.843	1.00	16.29	HIGL
ATOM	247	C	PRO	31	1.992	59.830	134.521	1.00	15.68	HIGL
ATOM	248	O	PRO	31	1.455	60.782	133.943	1.00	16.00	HIGL
ATOM	249	N	LEU	32	3.258	59.478	134.313	1.00	14.62	HIGL
ATOM	250	CA	LEU	32	4.139	60.224	133.416	1.00	13.57	HIGL
ATOM	251	CB	LEU	32	5.433	59.437	133.198	1.00	12.66	HIGL
ATOM	252	CG	LEU	32	6.592	60.142	132.490	1.00	12.44	HIGL
ATOM	253	CD1	LEU	32	6.934	61.428	133.209	1.00	11.76	HIGL
ATOM	254	CD2	LEU	32	7.805	59.218	132.455	1.00	12.43	HIGL
ATOM	255	C	LEU	32	3.546	60.628	132.062	1.00	13.85	HIGL
ATOM	256	O	LEU	32	3.684	61.781	131.641	1.00	13.20	HIGL
ATOM	257	N	GLU	33	2.881	59.698	131.379	1.00	14.00	HIGL
ATOM	258	CA	GLU	33	2.316	60.020	130.073	1.00	14.95	HIGL
ATOM	259	CB	GLU	33	1.486	58.847	129.510	1.00	15.36	HIGL

Fig. 2 cont.

50/174

ATOM	260	CG	GLU	33	0.259	58.440	130.324	1.00	16.87	HIGL
ATOM	261	CD	GLU	33	0.560	57.350	131.339	1.00	18.43	HIGL
ATOM	262	OE1	GLU	33	1.586	57.459	132.049	1.00	19.77	HIGL
ATOM	263	OE2	GLU	33	-0.234	56.387	131.433	1.00	18.45	HIGL
ATOM	264	C	GLU	33	1.476	61.300	130.102	1.00	15.90	HIGL
ATOM	265	O	GLU	33	1.429	62.032	129.113	1.00	17.16	HIGL
ATOM	266	N	TYR	34	0.824	61.584	131.228	1.00	16.05	HIGL
ATOM	267	CA	TYR	34	0.005	62.787	131.325	1.00	15.44	HIGL
ATOM	268	CB	TYR	34	-1.104	62.593	132.358	1.00	16.32	HIGL
ATOM	269	CG	TYR	34	-2.087	61.551	131.901	1.00	16.99	HIGL
ATOM	270	CD1	TYR	34	-2.063	60.257	132.426	1.00	17.20	HIGL
ATOM	271	CE1	TYR	34	-2.915	59.267	131.937	1.00	17.14	HIGL
ATOM	272	CD2	TYR	34	-2.992	61.832	130.875	1.00	17.08	HIGL
ATOM	273	CE2	TYR	34	-3.845	60.851	130.378	1.00	17.17	HIGL
ATOM	274	CZ	TYR	34	-3.801	59.572	130.913	1.00	17.87	HIGL
ATOM	275	OH	TYR	34	-4.647	58.603	130.425	1.00	19.84	HIGL
ATOM	276	C	TYR	34	0.828	64.030	131.617	1.00	14.61	HIGL
ATOM	277	O	TYR	34	0.512	65.115	131.126	1.00	13.80	HIGL
ATOM	278	N	ILE	35	1.889	63.880	132.399	1.00	14.26	HIGL
ATOM	279	CA	ILE	35	2.763	65.014	132.672	1.00	14.92	HIGL
ATOM	280	CB	ILE	35	3.865	64.662	133.679	1.00	15.08	HIGL
ATOM	281	CG2	ILE	35	4.882	65.794	133.753	1.00	14.72	HIGL
ATOM	282	CG1	ILE	35	3.243	64.398	135.051	1.00	15.03	HIGL
ATOM	283	CD1	ILE	35	4.219	63.877	136.067	1.00	15.01	HIGL
ATOM	284	C	ILE	35	3.424	65.404	131.352	1.00	14.91	HIGL
ATOM	285	O	ILE	35	3.656	66.584	131.092	1.00	15.44	HIGL
ATOM	286	N	LEU	36	3.715	64.403	130.518	1.00	14.83	HIGL
ATOM	287	CA	LEU	36	4.332	64.649	129.215	1.00	14.44	HIGL
ATOM	288	CB	LEU	36	4.765	63.340	128.557	1.00	14.34	HIGL
ATOM	289	CG	LEU	36	5.806	62.491	129.280	1.00	15.12	HIGL
ATOM	290	CD1	LEU	36	6.153	61.306	128.385	1.00	15.81	HIGL
ATOM	291	CD2	LEU	36	7.050	63.320	129.595	1.00	13.46	HIGL
ATOM	292	C	LEU	36	3.385	65.375	128.267	1.00	14.40	HIGL
ATOM	293	O	LEU	36	3.761	66.376	127.659	1.00	13.88	HIGL
ATOM	294	N	ALA	37	2.162	64.864	128.131	1.00	14.45	HIGL
ATOM	295	CA	ALA	37	1.173	65.482	127.247	1.00	15.05	HIGL
ATOM	296	CB	ALA	37	-0.121	64.677	127.269	1.00	14.89	HIGL
ATOM	297	C	ALA	37	0.918	66.915	127.711	1.00	15.47	HIGL
ATOM	298	O	ALA	37	0.757	67.832	126.907	1.00	14.62	HIGL
ATOM	299	N	GLU	38	0.910	67.081	129.028	1.00	16.62	HIGL
ATOM	300	CA	GLU	38	0.693	68.362	129.689	1.00	17.33	HIGL
ATOM	301	CB	GLU	38	0.784	68.145	131.200	1.00	19.24	HIGL
ATOM	302	CG	GLU	38	0.365	69.311	132.054	1.00	21.29	HIGL
ATOM	303	CD	GLU	38	0.550	69.028	133.529	1.00	22.16	HIGL
ATOM	304	OE1	GLU	38	0.222	67.905	133.972	1.00	21.31	HIGL
ATOM	305	OE2	GLU	38	1.018	69.939	134.244	1.00	23.91	HIGL
ATOM	306	C	GLU	38	1.727	69.402	129.262	1.00	16.88	HIGL
ATOM	307	O	GLU	38	1.441	70.597	129.205	1.00	16.84	HIGL
ATOM	308	N	ASN	39	2.934	68.942	128.960	1.00	16.61	HIGL
ATOM	309	CA	ASN	39	4.010	69.841	128.569	1.00	16.17	HIGL
ATOM	310	CB	ASN	39	5.311	69.379	129.218	1.00	16.22	HIGL
ATOM	311	CG	ASN	39	5.441	69.846	130.650	1.00	16.62	HIGL
ATOM	312	OD1	ASN	39	5.928	70.948	130.907	1.00	16.26	HIGL
ATOM	313	ND2	ASN	39	4.991	69.017	131.594	1.00	15.54	HIGL
ATOM	314	C	ASN	39	4.218	70.024	127.067	1.00	16.04	HIGL
ATOM	315	O	ASN	39	5.226	70.597	126.649	1.00	16.85	HIGL
ATOM	316	N	GLY	40	3.279	69.535	126.259	1.00	15.42	HIGL
ATOM	317	CA	GLY	40	3.392	69.694	124.821	1.00	14.77	HIGL
ATOM	318	C	GLY	40	3.895	68.494	124.037	1.00	15.22	HIGL
ATOM	319	O	GLY	40	3.890	68.517	122.810	1.00	15.07	HIGL
ATOM	320	N	VAL	41	4.342	67.451	124.725	1.00	15.28	HIGL
ATOM	321	CA	VAL	41	4.822	66.257	124.038	1.00	15.01	HIGL
ATOM	322	CB	VAL	41	5.357	65.212	125.047	1.00	15.77	HIGL
ATOM	323	CG1	VAL	41	5.682	63.896	124.328	1.00	14.74	HIGL
ATOM	324	CG2	VAL	41	6.596	65.760	125.751	1.00	15.28	HIGL

Fig. 2 cont.

51/174

ATOM	325	C	VAL	41	3.668	65.643	123.259	1.00	14.29	HIGL
ATOM	326	O	VAL	41	2.560	65.558	123.776	1.00	14.34	HIGL
ATOM	327	N	ASN	42	3.913	65.230	122.017	1.00	14.20	HIGL
ATOM	328	CA	ASN	42	2.846	64.611	121.217	1.00	14.11	HIGL
ATOM	329	CB	ASN	42	2.451	65.488	120.008	1.00	13.09	HIGL
ATOM	330	CG	ASN	42	3.588	65.683	119.003	1.00	15.29	HIGL
ATOM	331	OD1	ASN	42	4.632	65.030	119.077	1.00	14.89	HIGL
ATOM	332	ND2	ASN	42	3.376	66.587	118.044	1.00	13.72	HIGL
ATOM	333	C	ASN	42	3.220	63.215	120.734	1.00	13.63	HIGL
ATOM	334	O	ASN	42	2.523	62.628	119.907	1.00	13.90	HIGL
ATOM	335	N	MET	43	4.319	62.683	121.259	1.00	13.09	HIGL
ATOM	336	CA	MET	43	4.776	61.355	120.865	1.00	12.43	HIGL
ATOM	337	CB	MET	43	5.290	61.373	119.421	1.00	12.54	HIGL
ATOM	338	CG	MET	43	5.833	60.029	118.943	1.00	13.16	HIGL
ATOM	339	SD	MET	43	6.153	59.988	117.164	1.00	15.39	HIGL
ATOM	340	CE	MET	43	4.461	60.024	116.523	1.00	14.86	HIGL
ATOM	341	C	MET	43	5.870	60.820	121.774	1.00	11.00	HIGL
ATOM	342	O	MET	43	6.730	61.563	122.229	1.00	9.98	HIGL
ATOM	343	N	VAL	44	5.824	59.522	122.041	1.00	10.40	HIGL
ATOM	344	CA	VAL	44	6.837	58.900	122.872	1.00	10.47	HIGL
ATOM	345	CB	VAL	44	6.218	58.213	124.113	1.00	10.16	HIGL
ATOM	346	CG1	VAL	44	5.663	59.259	125.057	1.00	10.97	HIGL
ATOM	347	CG2	VAL	44	5.120	57.251	123.696	1.00	10.36	HIGL
ATOM	348	C	VAL	44	7.607	57.868	122.051	1.00	10.89	HIGL
ATOM	349	O	VAL	44	7.060	57.241	121.140	1.00	9.61	HIGL
ATOM	350	N	ARG	45	8.889	57.721	122.368	1.00	11.52	HIGL
ATOM	351	CA	ARG	45	9.758	56.765	121.696	1.00	12.77	HIGL
ATOM	352	CB	ARG	45	11.085	57.442	121.351	1.00	14.01	HIGL
ATOM	353	CG	ARG	45	12.129	56.570	120.667	1.00	15.59	HIGL
ATOM	354	CD	ARG	45	13.326	57.430	120.305	1.00	16.97	HIGL
ATOM	355	NE	ARG	45	14.418	56.694	119.679	1.00	17.87	HIGL
ATOM	356	CZ	ARG	45	15.496	56.254	120.320	1.00	17.82	HIGL
ATOM	357	NH1	ARG	45	15.642	56.466	121.620	1.00	17.90	HIGL
ATOM	358	NH2	ARG	45	16.439	55.610	119.653	1.00	18.55	HIGL
ATOM	359	C	ARG	45	9.970	55.628	122.687	1.00	13.22	HIGL
ATOM	360	O	ARG	45	10.244	55.870	123.859	1.00	13.66	HIGL
ATOM	361	N	GLN	46	9.821	54.390	122.232	1.00	13.78	HIGL
ATOM	362	CA	GLN	46	9.996	53.243	123.118	1.00	14.54	HIGL
ATOM	363	CB	GLN	46	8.639	52.573	123.394	1.00	15.20	HIGL
ATOM	364	CG	GLN	46	7.582	53.492	124.043	1.00	16.94	HIGL
ATOM	365	CD	GLN	46	6.298	52.748	124.403	1.00	18.02	HIGL
ATOM	366	OE1	GLN	46	5.361	53.328	124.944	1.00	17.27	HIGL
ATOM	367	NE2	GLN	46	6.257	51.454	124.097	1.00	19.40	HIGL
ATOM	368	C	GLN	46	10.960	52.228	122.512	1.00	14.27	HIGL
ATOM	369	O	GLN	46	10.808	51.829	121.360	1.00	15.12	HIGL
ATOM	370	N	ARG	47	11.962	51.821	123.280	1.00	14.18	HIGL
ATOM	371	CA	ARG	47	12.923	50.847	122.787	1.00	14.34	HIGL
ATOM	372	CB	ARG	47	14.264	51.008	123.510	1.00	14.68	HIGL
ATOM	373	CG	ARG	47	14.172	51.059	125.026	1.00	14.19	HIGL
ATOM	374	CD	ARG	47	15.555	50.900	125.661	1.00	14.01	HIGL
ATOM	375	NE	ARG	47	15.530	51.133	127.101	1.00	13.64	HIGL
ATOM	376	CZ	ARG	47	15.463	52.341	127.651	1.00	13.65	HIGL
ATOM	377	NH1	ARG	47	15.422	53.415	126.872	1.00	12.61	HIGL
ATOM	378	NH2	ARG	47	15.436	52.479	128.969	1.00	12.29	HIGL
ATOM	379	C	ARG	47	12.375	49.434	122.979	1.00	14.38	HIGL
ATOM	380	O	ARG	47	11.742	49.139	123.990	1.00	14.26	HIGL
ATOM	381	N	VAL	48	12.616	48.567	121.999	1.00	14.13	HIGL
ATOM	382	CA	VAL	48	12.136	47.194	122.054	1.00	14.66	HIGL
ATOM	383	CB	VAL	48	11.108	46.931	120.946	1.00	14.30	HIGL
ATOM	384	CG1	VAL	48	10.497	45.549	121.109	1.00	12.51	HIGL
ATOM	385	CG2	VAL	48	10.044	48.001	120.977	1.00	14.44	HIGL
ATOM	386	C	VAL	48	13.266	46.185	121.901	1.00	15.87	HIGL
ATOM	387	O	VAL	48	13.987	46.200	120.903	1.00	16.88	HIGL
ATOM	388	N	TRP	49	13.420	45.319	122.901	1.00	16.25	HIGL
ATOM	389	CA	TRP	49	14.449	44.283	122.881	1.00	16.07	HIGL

Fig. 2 cont.

52/174

ATOM	390	CB	TRP	49	15.243	44.280	124.194	1.00	15.19	HIGL
ATOM	391	CG	TRP	49	16.039	45.533	124.422	1.00	15.37	HIGL
ATOM	392	CD2	TRP	49	16.745	45.898	125.613	1.00	15.05	HIGL
ATOM	393	CE2	TRP	49	17.359	47.146	125.370	1.00	14.69	HIGL
ATOM	394	CE3	TRP	49	16.922	45.290	126.864	1.00	15.17	HIGL
ATOM	395	CD1	TRP	49	16.247	46.550	123.529	1.00	15.47	HIGL
ATOM	396	NE1	TRP	49	17.037	47.521	124.093	1.00	14.49	HIGL
ATOM	397	CZ2	TRP	49	18.138	47.798	126.332	1.00	15.16	HIGL
ATOM	398	CZ3	TRP	49	17.696	45.939	127.819	1.00	14.43	HIGL
ATOM	399	CH2	TRP	49	18.294	47.179	127.547	1.00	14.14	HIGL
ATOM	400	C	TRP	49	13.793	42.924	122.665	1.00	16.51	HIGL
ATOM	401	O	TRP	49	12.657	42.695	123.100	1.00	16.05	HIGL
ATOM	402	N	VAL	50	14.517	42.031	121.990	1.00	16.88	HIGL
ATOM	403	CA	VAL	50	14.031	40.690	121.675	1.00	17.15	HIGL
ATOM	404	CB	VAL	50	15.039	39.953	120.754	1.00	17.71	HIGL
ATOM	405	CG1	VAL	50	14.449	38.639	120.260	1.00	17.30	HIGL
ATOM	406	CG2	VAL	50	15.402	40.841	119.571	1.00	17.23	HIGL
ATOM	407	C	VAL	50	13.763	39.843	122.923	1.00	17.92	HIGL
ATOM	408	O	VAL	50	12.617	39.724	123.362	1.00	18.11	HIGL
ATOM	409	N	ASN	51	14.812	39.258	123.495	1.00	18.58	HIGL
ATOM	410	CA	ASN	51	14.660	38.430	124.690	1.00	18.99	HIGL
ATOM	411	CB	ASN	51	15.126	37.010	124.410	1.00	21.64	HIGL
ATOM	412	CG	ASN	51	14.602	36.480	123.093	1.00	24.95	HIGL
ATOM	413	OD1	ASN	51	13.388	36.364	122.892	1.00	27.18	HIGL
ATOM	414	ND2	ASN	51	15.517	36.156	122.180	1.00	25.56	HIGL
ATOM	415	C	ASN	51	15.443	38.978	125.875	1.00	18.38	HIGL
ATOM	416	O	ASN	51	16.417	38.368	126.319	1.00	17.35	HIGL
ATOM	417	N	PRO	52	15.032	40.144	126.401	1.00	17.80	HIGL
ATOM	418	CD	PRO	52	13.867	40.972	126.053	1.00	17.12	HIGL
ATOM	419	CA	PRO	52	15.747	40.712	127.543	1.00	17.06	HIGL
ATOM	420	CB	PRO	52	14.949	41.971	127.861	1.00	16.91	HIGL
ATOM	421	CG	PRO	52	13.579	41.650	127.364	1.00	17.23	HIGL
ATOM	422	C	PRO	52	15.776	39.716	128.688	1.00	17.60	HIGL
ATOM	423	O	PRO	52	14.828	38.954	128.891	1.00	17.99	HIGL
ATOM	424	N	TRP	53	16.877	39.723	129.428	1.00	17.96	HIGL
ATOM	425	CA	TRP	53	17.068	38.801	130.536	1.00	17.77	HIGL
ATOM	426	CB	TRP	53	18.448	39.013	131.156	1.00	18.06	HIGL
ATOM	427	CG	TRP	53	18.543	40.298	131.917	1.00	18.50	HIGL
ATOM	428	CD2	TRP	53	18.389	40.459	133.328	1.00	18.71	HIGL
ATOM	429	CE2	TRP	53	18.452	41.844	133.600	1.00	17.92	HIGL
ATOM	430	CE3	TRP	53	18.198	39.565	134.390	1.00	18.46	HIGL
ATOM	431	CD1	TRP	53	18.698	41.553	131.404	1.00	18.32	HIGL
ATOM	432	NE1	TRP	53	18.642	42.489	132.409	1.00	17.61	HIGL
ATOM	433	CZ2	TRP	53	18.331	42.357	134.888	1.00	19.23	HIGL
ATOM	434	CZ3	TRP	53	18.077	40.074	135.674	1.00	19.45	HIGL
ATOM	435	CH2	TRP	53	18.143	41.460	135.912	1.00	19.83	HIGL
ATOM	436	C	TRP	53	16.017	38.919	131.631	1.00	17.78	HIGL
ATOM	437	O	TRP	53	15.726	37.944	132.324	1.00	18.33	HIGL
ATOM	438	N	ASP	54	15.447	40.106	131.793	1.00	17.42	HIGL
ATOM	439	CA	ASP	54	14.455	40.307	132.845	1.00	17.12	HIGL
ATOM	440	CB	ASP	54	14.976	41.352	133.830	1.00	16.85	HIGL
ATOM	441	CG	ASP	54	15.139	42.705	133.189	1.00	17.98	HIGL
ATOM	442	OD1	ASP	54	15.083	42.779	131.938	1.00	19.62	HIGL
ATOM	443	OD2	ASP	54	15.325	43.690	133.927	1.00	17.75	HIGL
ATOM	444	C	ASP	54	13.080	40.718	132.320	1.00	16.46	HIGL
ATOM	445	O	ASP	54	12.196	41.080	133.094	1.00	16.77	HIGL
ATOM	446	N	GLY	55	12.907	40.666	131.003	1.00	16.49	HIGL
ATOM	447	CA	GLY	55	11.629	41.019	130.406	1.00	15.10	HIGL
ATOM	448	C	GLY	55	11.396	42.494	130.120	1.00	14.82	HIGL
ATOM	449	O	GLY	55	10.461	42.844	129.401	1.00	14.82	HIGL
ATOM	450	N	ASN	56	12.225	43.375	130.667	1.00	14.46	HIGL
ATOM	451	CA	ASN	56	12.010	44.792	130.418	1.00	14.01	HIGL
ATOM	452	CB	ASN	56	12.784	45.649	131.417	1.00	14.38	HIGL
ATOM	453	CG	ASN	56	12.130	45.660	132.785	1.00	15.79	HIGL
ATOM	454	OD1	ASN	56	10.901	45.606	132.902	1.00	15.70	HIGL

Fig. 2 cont.

53/174

ATOM	455	ND2	ASN	56	12.941	45.743	133.826	1.00	16.95	HIGL
ATOM	456	C	ASN	56	12.341	45.204	128.999	1.00	13.31	HIGL
ATOM	457	O	ASN	56	13.366	44.817	128.442	1.00	12.12	HIGL
ATOM	458	N	TYR	57	11.439	45.991	128.424	1.00	13.34	HIGL
ATOM	459	CA	TYR	57	11.558	46.499	127.065	1.00	13.09	HIGL
ATOM	460	CB	TYR	57	12.968	47.049	126.789	1.00	12.20	HIGL
ATOM	461	CG	TYR	57	13.466	47.989	127.865	1.00	11.14	HIGL
ATOM	462	CD1	TYR	57	12.666	49.030	128.330	1.00	10.28	HIGL
ATOM	463	CE1	TYR	57	13.095	49.859	129.353	1.00	9.79	HIGL
ATOM	464	CD2	TYR	57	14.716	47.808	128.450	1.00	10.12	HIGL
ATOM	465	CE2	TYR	57	15.152	48.630	129.471	1.00	9.28	HIGL
ATOM	466	CZ	TYR	57	14.333	49.654	129.922	1.00	9.42	HIGL
ATOM	467	OH	TYR	57	14.737	50.450	130.973	1.00	10.17	HIGL
ATOM	468	C	TYR	57	11.214	45.426	126.052	1.00	13.71	HIGL
ATOM	469	O	TYR	57	11.460	45.591	124.854	1.00	13.96	HIGL
ATOM	470	N	ASN	58	10.657	44.313	126.515	1.00	13.75	HIGL
ATOM	471	CA	ASN	58	10.276	43.298	125.553	1.00	14.27	HIGL
ATOM	472	CB	ASN	58	10.325	41.874	126.147	1.00	12.09	HIGL
ATOM	473	CG	ASN	58	9.216	41.576	127.140	1.00	9.87	HIGL
ATOM	474	OD1	ASN	58	8.278	42.353	127.323	1.00	11.38	HIGL
ATOM	475	ND2	ASN	58	9.316	40.416	127.777	1.00	5.89	HIGL
ATOM	476	C	ASN	58	8.892	43.669	125.039	1.00	15.29	HIGL
ATOM	477	O	ASN	58	8.301	44.651	125.490	1.00	14.81	HIGL
ATOM	478	N	LEU	59	8.389	42.901	124.085	1.00	17.30	HIGL
ATOM	479	CA	LEU	59	7.096	43.188	123.482	1.00	19.48	HIGL
ATOM	480	CB	LEU	59	6.692	42.037	122.565	1.00	21.08	HIGL
ATOM	481	CG	LEU	59	5.709	42.447	121.470	1.00	23.34	HIGL
ATOM	482	CD1	LEU	59	6.296	43.624	120.673	1.00	23.05	HIGL
ATOM	483	CD2	LEU	59	5.436	41.247	120.561	1.00	23.47	HIGL
ATOM	484	C	LEU	59	5.970	43.488	124.471	1.00	19.90	HIGL
ATOM	485	O	LEU	59	5.367	44.557	124.415	1.00	21.04	HIGL
ATOM	486	N	ASP	60	5.683	42.555	125.372	1.00	20.10	HIGL
ATOM	487	CA	ASP	60	4.619	42.756	126.348	1.00	20.50	HIGL
ATOM	488	CB	ASP	60	4.599	41.613	127.369	1.00	21.74	HIGL
ATOM	489	CG	ASP	60	4.436	40.250	126.720	1.00	23.55	HIGL
ATOM	490	OD1	ASP	60	3.553	40.100	125.844	1.00	23.00	HIGL
ATOM	491	OD2	ASP	60	5.190	39.324	127.094	1.00	24.89	HIGL
ATOM	492	C	ASP	60	4.810	44.078	127.078	1.00	20.77	HIGL
ATOM	493	O	ASP	60	3.869	44.860	127.231	1.00	21.37	HIGL
ATOM	494	N	TYR	61	6.038	44.315	127.529	1.00	20.29	HIGL
ATOM	495	CA	TYR	61	6.393	45.533	128.241	1.00	19.19	HIGL
ATOM	496	CB	TYR	61	7.896	45.526	128.574	1.00	19.77	HIGL
ATOM	497	CG	TYR	61	8.400	46.776	129.274	1.00	19.20	HIGL
ATOM	498	CD1	TYR	61	8.572	47.975	128.580	1.00	19.12	HIGL
ATOM	499	CE1	TYR	61	8.998	49.132	129.229	1.00	19.60	HIGL
ATOM	500	CD2	TYR	61	8.675	46.766	130.638	1.00	19.18	HIGL
ATOM	501	CE2	TYR	61	9.101	47.916	131.297	1.00	20.13	HIGL
ATOM	502	CZ	TYR	61	9.259	49.096	130.589	1.00	20.45	HIGL
ATOM	503	OH	TYR	61	9.663	50.239	131.250	1.00	21.00	HIGL
ATOM	504	C	TYR	61	6.059	46.767	127.414	1.00	19.25	HIGL
ATOM	505	O	TYR	61	5.506	47.738	127.930	1.00	19.40	HIGL
ATOM	506	N	ASN	62	6.390	46.733	126.129	1.00	19.00	HIGL
ATOM	507	CA	ASN	62	6.128	47.878	125.271	1.00	19.77	HIGL
ATOM	508	CB	ASN	62	6.971	47.789	123.999	1.00	20.44	HIGL
ATOM	509	CG	ASN	62	8.403	48.223	124.229	1.00	21.08	HIGL
ATOM	510	OD1	ASN	62	8.685	49.415	124.376	1.00	21.94	HIGL
ATOM	511	ND2	ASN	62	9.315	47.259	124.284	1.00	20.37	HIGL
ATOM	512	C	ASN	62	4.664	48.053	124.925	1.00	19.75	HIGL
ATOM	513	O	ASN	62	4.235	49.156	124.588	1.00	20.46	HIGL
ATOM	514	N	ILE	63	3.892	46.977	125.009	1.00	19.62	HIGL
ATOM	515	CA	ILE	63	2.472	47.073	124.717	1.00	20.26	HIGL
ATOM	516	CB	ILE	63	1.856	45.693	124.478	1.00	20.11	HIGL
ATOM	517	CG2	ILE	63	0.336	45.761	124.598	1.00	19.41	HIGL
ATOM	518	CG1	ILE	63	2.293	45.198	123.101	1.00	20.67	HIGL
ATOM	519	CD1	ILE	63	1.599	43.952	122.648	1.00	23.84	HIGL

Fig. 2 cont.

54/174

ATOM	520	C	ILE	63	1.742	47.775	125.852	1.00	21.15	HIGL
ATOM	521	O	ILE	63	0.807	48.535	125.617	1.00	20.59	HIGL
ATOM	522	N	GLN	64	2.172	47.528	127.086	1.00	22.72	HIGL
ATOM	523	CA	GLN	64	1.547	48.177	128.235	1.00	23.28	HIGL
ATOM	524	CB	GLN	64	2.117	47.626	129.544	1.00	24.62	HIGL
ATOM	525	CG	GLN	64	1.064	47.428	130.630	1.00	27.22	HIGL
ATOM	526	CD	GLN	64	1.641	46.837	131.906	1.00	29.98	HIGL
ATOM	527	OE1	GLN	64	2.314	45.798	131.877	1.00	31.39	HIGL
ATOM	528	NE2	GLN	64	1.380	47.493	133.037	1.00	29.60	HIGL
ATOM	529	C	GLN	64	1.827	49.675	128.130	1.00	22.91	HIGL
ATOM	530	O	GLN	64	0.952	50.501	128.400	1.00	23.24	HIGL
ATOM	531	N	LEU	65	3.045	50.018	127.717	1.00	21.90	HIGL
ATOM	532	CA	LEU	65	3.436	51.415	127.559	1.00	21.80	HIGL
ATOM	533	CB	LEU	65	4.925	51.524	127.241	1.00	21.78	HIGL
ATOM	534	CG	LEU	65	5.863	51.436	128.439	1.00	22.02	HIGL
ATOM	535	CD1	LEU	65	7.300	51.702	128.006	1.00	21.72	HIGL
ATOM	536	CD2	LEU	65	5.424	52.459	129.459	1.00	22.32	HIGL
ATOM	537	C	LEU	65	2.650	52.104	126.458	1.00	21.48	HIGL
ATOM	538	O	LEU	65	2.107	53.191	126.651	1.00	20.27	HIGL
ATOM	539	N	ALA	66	2.604	51.467	125.297	1.00	21.88	HIGL
ATOM	540	CA	ALA	66	1.884	52.017	124.157	1.00	22.71	HIGL
ATOM	541	CB	ALA	66	1.908	51.026	123.006	1.00	21.67	HIGL
ATOM	542	C	ALA	66	0.447	52.340	124.546	1.00	22.91	HIGL
ATOM	543	O	ALA	66	-0.013	53.471	124.395	1.00	23.72	HIGL
ATOM	544	N	ARG	67	-0.256	51.340	125.059	1.00	23.00	HIGL
ATOM	545	CA	ARG	67	-1.635	51.517	125.457	1.00	22.83	HIGL
ATOM	546	CB	ARG	67	-2.121	50.260	126.173	1.00	24.13	HIGL
ATOM	547	CG	ARG	67	-3.621	50.147	126.305	1.00	26.38	HIGL
ATOM	548	CD	ARG	67	-3.993	48.774	126.824	1.00	29.10	HIGL
ATOM	549	NE	ARG	67	-3.810	47.732	125.815	1.00	30.83	HIGL
ATOM	550	CZ	ARG	67	-3.501	46.469	126.098	1.00	32.31	HIGL
ATOM	551	NH1	ARG	67	-3.333	46.096	127.361	1.00	33.65	HIGL
ATOM	552	NH2	ARG	67	-3.369	45.576	125.126	1.00	32.30	HIGL
ATOM	553	C	ARG	67	-1.747	52.749	126.351	1.00	22.02	HIGL
ATOM	554	O	ARG	67	-2.627	53.587	126.158	1.00	22.49	HIGL
ATOM	555	N	ARG	68	-0.843	52.876	127.313	1.00	21.00	HIGL
ATOM	556	CA	ARG	68	-0.860	54.031	128.207	1.00	20.10	HIGL
ATOM	557	CB	ARG	68	0.183	53.867	129.321	1.00	19.58	HIGL
ATOM	558	CG	ARG	68	-0.247	52.927	130.442	1.00	18.60	HIGL
ATOM	559	CD	ARG	68	0.858	52.723	131.475	1.00	17.98	HIGL
ATOM	560	NE	ARG	68	1.319	53.986	132.048	1.00	17.78	HIGL
ATOM	561	CZ	ARG	68	2.210	54.078	133.030	1.00	16.65	HIGL
ATOM	562	NH1	ARG	68	2.735	52.975	133.550	1.00	15.08	HIGL
ATOM	563	NH2	ARG	68	2.574	55.272	133.490	1.00	15.87	HIGL
ATOM	564	C	ARG	68	-0.588	55.322	127.441	1.00	20.06	HIGL
ATOM	565	O	ARG	68	-1.287	56.312	127.613	1.00	19.99	HIGL
ATOM	566	N	ALA	69	0.437	55.306	126.597	1.00	20.75	HIGL
ATOM	567	CA	ALA	69	0.800	56.477	125.808	1.00	21.00	HIGL
ATOM	568	CB	ALA	69	1.979	56.144	124.913	1.00	21.37	HIGL
ATOM	569	C	ALA	69	-0.379	56.960	124.965	1.00	21.40	HIGL
ATOM	570	O	ALA	69	-0.610	58.164	124.829	1.00	20.93	HIGL
ATOM	571	N	LYS	70	-1.114	56.007	124.402	1.00	21.23	HIGL
ATOM	572	CA	LYS	70	-2.273	56.295	123.574	1.00	22.04	HIGL
ATOM	573	CB	LYS	70	-2.770	54.991	122.941	1.00	24.06	HIGL
ATOM	574	CG	LYS	70	-4.006	55.118	122.060	1.00	26.72	HIGL
ATOM	575	CD	LYS	70	-4.553	53.734	121.710	1.00	29.26	HIGL
ATOM	576	CE	LYS	70	-5.785	53.811	120.813	1.00	30.47	HIGL
ATOM	577	NZ	LYS	70	-6.349	52.451	120.547	1.00	31.87	HIGL
ATOM	578	C	LYS	70	-3.394	56.946	124.403	1.00	21.81	HIGL
ATOM	579	O	LYS	70	-4.034	57.901	123.958	1.00	21.40	HIGL
ATOM	580	N	ALA	71	-3.631	56.439	125.609	1.00	20.36	HIGL
ATOM	581	CA	ALA	71	-4.682	57.000	126.448	1.00	19.90	HIGL
ATOM	582	CB	ALA	71	-4.770	56.242	127.767	1.00	19.16	HIGL
ATOM	583	C	ALA	71	-4.432	58.485	126.708	1.00	19.54	HIGL
ATOM	584	O	ALA	71	-5.371	59.259	126.862	1.00	20.19	HIGL

Fig. 2 cont.

55/174

ATOM	585	N	ALA	72	-3.166	58.881	126.754	1.00	18.45	HIGL
ATOM	586	CA	ALA	72	-2.822	60.276	126.987	1.00	17.24	HIGL
ATOM	587	CB	ALA	72	-1.507	60.374	127.753	1.00	16.31	HIGL
ATOM	588	C	ALA	72	-2.722	61.035	125.667	1.00	16.70	HIGL
ATOM	589	O	ALA	72	-2.210	62.147	125.628	1.00	17.88	HIGL
ATOM	590	N	GLY	73	-3.200	60.421	124.589	1.00	15.95	HIGL
ATOM	591	CA	GLY	73	-3.176	61.058	123.284	1.00	15.41	HIGL
ATOM	592	C	GLY	73	-1.809	61.236	122.647	1.00	16.92	HIGL
ATOM	593	O	GLY	73	-1.638	62.056	121.739	1.00	16.80	HIGL
ATOM	594	N	LEU	74	-0.826	60.470	123.107	1.00	16.80	HIGL
ATOM	595	CA	LEU	74	0.516	60.577	122.554	1.00	16.41	HIGL
ATOM	596	CB	LEU	74	1.545	60.366	123.663	1.00	15.23	HIGL
ATOM	597	CG	LEU	74	1.311	61.253	124.884	1.00	14.82	HIGL
ATOM	598	CD1	LEU	74	2.265	60.875	125.994	1.00	13.72	HIGL
ATOM	599	CD2	LEU	74	1.486	62.706	124.492	1.00	14.41	HIGL
ATOM	600	C	LEU	74	0.762	59.577	121.424	1.00	17.36	HIGL
ATOM	601	O	LEU	74	0.319	58.430	121.482	1.00	16.67	HIGL
ATOM	602	N	GLY	75	1.470	60.027	120.392	1.00	18.17	HIGL
ATOM	603	CA	GLY	75	1.785	59.155	119.278	1.00	17.81	HIGL
ATOM	604	C	GLY	75	2.846	58.153	119.695	1.00	18.44	HIGL
ATOM	605	O	GLY	75	3.486	58.299	120.748	1.00	18.86	HIGL
ATOM	606	N	LEU	76	3.058	57.147	118.858	1.00	17.36	HIGL
ATOM	607	CA	LEU	76	4.014	56.103	119.163	1.00	16.84	HIGL
ATOM	608	CB	LEU	76	3.262	54.777	119.306	1.00	16.53	HIGL
ATOM	609	CG	LEU	76	4.075	53.527	119.631	1.00	17.06	HIGL
ATOM	610	CD1	LEU	76	4.742	53.691	120.997	1.00	16.56	HIGL
ATOM	611	CD2	LEU	76	3.161	52.318	119.620	1.00	15.85	HIGL
ATOM	612	C	LEU	76	5.143	55.949	118.139	1.00	16.79	HIGL
ATOM	613	O	LEU	76	4.914	55.918	116.932	1.00	17.69	HIGL
ATOM	614	N	TYR	77	6.364	55.844	118.648	1.00	15.89	HIGL
ATOM	615	CA	TYR	77	7.560	55.664	117.835	1.00	15.08	HIGL
ATOM	616	CB	TYR	77	8.420	56.938	117.927	1.00	14.34	HIGL
ATOM	617	CG	TYR	77	9.866	56.872	117.435	1.00	14.79	HIGL
ATOM	618	CD1	TYR	77	10.428	55.695	116.925	1.00	13.89	HIGL
ATOM	619	CE1	TYR	77	11.774	55.644	116.552	1.00	14.56	HIGL
ATOM	620	CD2	TYR	77	10.693	57.994	117.547	1.00	15.32	HIGL
ATOM	621	CE2	TYR	77	12.039	57.955	117.179	1.00	14.67	HIGL
ATOM	622	CZ	TYR	77	12.577	56.783	116.688	1.00	15.26	HIGL
ATOM	623	OH	TYR	77	13.920	56.753	116.367	1.00	14.00	HIGL
ATOM	624	C	TYR	77	8.261	54.436	118.440	1.00	15.55	HIGL
ATOM	625	O	TYR	77	8.853	54.507	119.530	1.00	15.30	HIGL
ATOM	626	N	ILE	78	8.147	53.306	117.743	1.00	14.24	HIGL
ATOM	627	CA	ILE	78	8.751	52.051	118.183	1.00	14.13	HIGL
ATOM	628	CB	ILE	78	7.970	50.824	117.639	1.00	14.46	HIGL
ATOM	629	CG2	ILE	78	8.742	49.534	117.930	1.00	14.89	HIGL
ATOM	630	CG1	ILE	78	6.575	50.766	118.276	1.00	14.25	HIGL
ATOM	631	CD1	ILE	78	6.567	50.420	119.761	1.00	12.73	HIGL
ATOM	632	C	ILE	78	10.193	51.991	117.701	1.00	13.40	HIGL
ATOM	633	O	ILE	78	10.467	52.112	116.512	1.00	13.27	HIGL
ATOM	634	N	ASN	79	11.104	51.797	118.646	1.00	13.08	HIGL
ATOM	635	CA	ASN	79	12.533	51.753	118.378	1.00	12.27	HIGL
ATOM	636	CB	ASN	79	13.209	52.771	119.304	1.00	12.87	HIGL
ATOM	637	CG	ASN	79	14.714	52.607	119.393	1.00	12.44	HIGL
ATOM	638	OD1	ASN	79	15.291	52.886	120.435	1.00	12.93	HIGL
ATOM	639	ND2	ASN	79	15.353	52.175	118.311	1.00	12.14	HIGL
ATOM	640	C	ASN	79	13.111	50.354	118.587	1.00	12.54	HIGL
ATOM	641	O	ASN	79	13.453	49.979	119.708	1.00	12.54	HIGL
ATOM	642	N	PHE	80	13.209	49.590	117.501	1.00	12.76	HIGL
ATOM	643	CA	PHE	80	13.752	48.232	117.534	1.00	13.01	HIGL
ATOM	644	CB	PHE	80	13.453	47.486	116.228	1.00	12.75	HIGL
ATOM	645	CG	PHE	80	12.076	46.901	116.154	1.00	13.87	HIGL
ATOM	646	CD1	PHE	80	11.636	45.998	117.120	1.00	13.28	HIGL
ATOM	647	CD2	PHE	80	11.218	47.241	115.114	1.00	12.89	HIGL
ATOM	648	CE1	PHE	80	10.363	45.446	117.054	1.00	11.74	HIGL
ATOM	649	CE2	PHE	80	9.943	46.692	115.043	1.00	13.92	HIGL

Fig. 2 cont.

56/174

ATOM	650	CZ	PHE	80	9.517	45.792	116.019	1.00	13.02	HIGL
ATOM	651	C	PHE	80	15.259	48.253	117.690	1.00	13.33	HIGL
ATOM	652	O	PHE	80	15.937	48.944	116.940	1.00	14.29	HIGL
ATOM	653	N	HIS	81	15.784	47.499	118.649	1.00	12.98	HIGL
ATOM	654	CA	HIS	81	17.227	47.426	118.823	1.00	13.87	HIGL
ATOM	655	CB	HIS	81	17.626	47.425	120.304	1.00	13.89	HIGL
ATOM	656	CG	HIS	81	17.633	48.782	120.933	1.00	15.21	HIGL
ATOM	657	CD2	HIS	81	16.749	49.805	120.860	1.00	15.13	HIGL
ATOM	658	ND1	HIS	81	18.639	49.204	121.777	1.00	15.56	HIGL
ATOM	659	CE1	HIS	81	18.375	50.429	122.196	1.00	14.49	HIGL
ATOM	660	NE2	HIS	81	17.234	50.816	121.655	1.00	15.27	HIGL
ATOM	661	C	HIS	81	17.717	46.137	118.176	1.00	13.69	HIGL
ATOM	662	O	HIS	81	18.911	45.971	117.928	1.00	14.21	HIGL
ATOM	663	N	TYR	82	16.784	45.231	117.902	1.00	13.26	HIGL
ATOM	664	CA	TYR	82	17.105	43.939	117.299	1.00	13.09	HIGL
ATOM	665	CB	TYR	82	17.449	44.102	115.819	1.00	13.22	HIGL
ATOM	666	CG	TYR	82	16.277	44.556	114.986	1.00	13.70	HIGL
ATOM	667	CD1	TYR	82	15.014	43.977	115.161	1.00	13.38	HIGL
ATOM	668	CE1	TYR	82	13.939	44.348	114.378	1.00	12.96	HIGL
ATOM	669	CD2	TYR	82	16.429	45.529	114.002	1.00	12.39	HIGL
ATOM	670	CE2	TYR	82	15.359	45.908	113.209	1.00	13.19	HIGL
ATOM	671	CZ	TYR	82	14.114	45.310	113.400	1.00	14.02	HIGL
ATOM	672	OH	TYR	82	13.046	45.652	112.595	1.00	15.86	HIGL
ATOM	673	C	TYR	82	18.257	43.278	118.030	1.00	13.08	HIGL
ATOM	674	O	TYR	82	19.217	42.804	117.421	1.00	12.93	HIGL
ATOM	675	N	SER	83	18.137	43.256	119.352	1.00	13.03	HIGL
ATOM	676	CA	SER	83	19.132	42.668	120.227	1.00	13.56	HIGL
ATOM	677	CB	SER	83	20.266	43.671	120.439	1.00	13.70	HIGL
ATOM	678	OG	SER	83	21.309	43.114	121.210	1.00	15.51	HIGL
ATOM	679	C	SER	83	18.440	42.348	121.557	1.00	14.03	HIGL
ATOM	680	O	SER	83	17.332	42.827	121.805	1.00	13.59	HIGL
ATOM	681	N	ASP	84	19.066	41.532	122.405	1.00	14.12	HIGL
ATOM	682	CA	ASP	84	18.453	41.215	123.694	1.00	14.35	HIGL
ATOM	683	CB	ASP	84	19.025	39.927	124.294	1.00	15.38	HIGL
ATOM	684	CG	ASP	84	18.577	38.682	123.558	1.00	16.47	HIGL
ATOM	685	OD1	ASP	84	17.543	38.736	122.856	1.00	16.36	HIGL
ATOM	686	OD2	ASP	84	19.259	37.643	123.704	1.00	17.16	HIGL
ATOM	687	C	ASP	84	18.760	42.357	124.640	1.00	13.54	HIGL
ATOM	688	O	ASP	84	18.066	42.571	125.629	1.00	12.95	HIGL
ATOM	689	N	THR	85	19.806	43.100	124.308	1.00	12.90	HIGL
ATOM	690	CA	THR	85	20.240	44.199	125.141	1.00	12.85	HIGL
ATOM	691	CB	THR	85	21.471	43.771	125.920	1.00	12.51	HIGL
ATOM	692	OG1	THR	85	21.661	44.642	127.038	1.00	14.10	HIGL
ATOM	693	CG2	THR	85	22.685	43.810	125.013	1.00	12.87	HIGL
ATOM	694	C	THR	85	20.555	45.453	124.314	1.00	12.72	HIGL
ATOM	695	O	THR	85	20.377	45.463	123.095	1.00	12.75	HIGL
ATOM	696	N	TRP	86	21.038	46.495	124.989	1.00	11.76	HIGL
ATOM	697	CA	TRP	86	21.358	47.772	124.354	1.00	10.89	HIGL
ATOM	698	CB	TRP	86	22.198	48.651	125.276	1.00	9.89	HIGL
ATOM	699	CG	TRP	86	21.597	48.938	126.604	1.00	10.03	HIGL
ATOM	700	CD2	TRP	86	20.629	49.947	126.908	1.00	9.39	HIGL
ATOM	701	CE2	TRP	86	20.363	49.865	128.292	1.00	8.31	HIGL
ATOM	702	CE3	TRP	86	19.959	50.913	126.147	1.00	9.93	HIGL
ATOM	703	CD1	TRP	86	21.870	48.302	127.781	1.00	8.33	HIGL
ATOM	704	NE1	TRP	86	21.135	48.852	128.796	1.00	7.98	HIGL
ATOM	705	CZ2	TRP	86	19.457	50.711	128.932	1.00	7.91	HIGL
ATOM	706	CZ3	TRP	86	19.051	51.760	126.788	1.00	9.09	HIGL
ATOM	707	CH2	TRP	86	18.812	51.649	128.166	1.00	9.37	HIGL
ATOM	708	C	TRP	86	22.111	47.668	123.048	1.00	11.73	HIGL
ATOM	709	O	TRP	86	23.216	47.141	123.008	1.00	11.69	HIGL
ATOM	710	N	ALA	87	21.524	48.193	121.980	1.00	12.59	HIGL
ATOM	711	CA	ALA	87	22.189	48.180	120.685	1.00	12.82	HIGL
ATOM	712	CB	ALA	87	21.246	47.706	119.603	1.00	12.18	HIGL
ATOM	713	C	ALA	87	22.665	49.594	120.381	1.00	13.67	HIGL
ATOM	714	O	ALA	87	21.912	50.553	120.532	1.00	13.58	HIGL

Fig. 2 cont.

57/174

ATOM	715	N	ASP	88	23.929	49.710	119.984	1.00	14.42	HIGL
ATOM	716	CA	ASP	88	24.538	50.984	119.628	1.00	14.58	HIGL
ATOM	717	CB	ASP	88	24.990	51.744	120.889	1.00	14.68	HIGL
ATOM	718	CG	ASP	88	25.901	50.925	121.783	1.00	16.21	HIGL
ATOM	719	OD1	ASP	88	26.827	50.268	121.263	1.00	18.18	HIGL
ATOM	720	OD2	ASP	88	25.701	50.949	123.014	1.00	16.03	HIGL
ATOM	721	C	ASP	88	25.721	50.691	118.690	1.00	15.64	HIGL
ATOM	722	O	ASP	88	26.023	49.529	118.416	1.00	15.14	HIGL
ATOM	723	N	PRO	89	26.408	51.734	118.192	1.00	16.24	HIGL
ATOM	724	CD	PRO	89	26.232	53.163	118.505	1.00	16.14	HIGL
ATOM	725	CA	PRO	89	27.545	51.549	117.280	1.00	16.34	HIGL
ATOM	726	CB	PRO	89	28.119	52.954	117.159	1.00	16.73	HIGL
ATOM	727	CG	PRO	89	26.918	53.823	117.343	1.00	17.24	HIGL
ATOM	728	C	PRO	89	28.607	50.541	117.708	1.00	16.16	HIGL
ATOM	729	O	PRO	89	29.283	49.961	116.871	1.00	15.63	HIGL
ATOM	730	N	ALA	90	28.760	50.326	119.006	1.00	16.46	HIGL
ATOM	731	CA	ALA	90	29.773	49.387	119.462	1.00	16.48	HIGL
ATOM	732	CB	ALA	90	30.596	50.003	120.598	1.00	14.72	HIGL
ATOM	733	C	ALA	90	29.191	48.054	119.899	1.00	16.00	HIGL
ATOM	734	O	ALA	90	29.939	47.143	120.241	1.00	17.19	HIGL
ATOM	735	N	HIS	91	27.867	47.933	119.869	1.00	15.05	HIGL
ATOM	736	CA	HIS	91	27.230	46.680	120.288	1.00	14.58	HIGL
ATOM	737	CB	HIS	91	26.897	46.673	121.785	1.00	15.34	HIGL
ATOM	738	CG	HIS	91	27.967	47.242	122.662	1.00	14.94	HIGL
ATOM	739	CD2	HIS	91	28.755	46.663	123.599	1.00	15.42	HIGL
ATOM	740	ND1	HIS	91	28.296	48.582	122.660	1.00	15.37	HIGL
ATOM	741	CE1	HIS	91	29.237	48.803	123.561	1.00	16.41	HIGL
ATOM	742	NE2	HIS	91	29.534	47.654	124.146	1.00	15.75	HIGL
ATOM	743	C	HIS	91	25.939	46.414	119.518	1.00	14.68	HIGL
ATOM	744	O	HIS	91	24.944	47.123	119.679	1.00	14.01	HIGL
ATOM	745	N	GLN	92	25.968	45.385	118.680	1.00	14.89	HIGL
ATOM	746	CA	GLN	92	24.818	44.974	117.885	1.00	14.67	HIGL
ATOM	747	CB	GLN	92	25.000	45.394	116.421	1.00	13.95	HIGL
ATOM	748	CG	GLN	92	24.928	46.904	116.159	1.00	13.75	HIGL
ATOM	749	CD	GLN	92	23.529	47.497	116.368	1.00	13.63	HIGL
ATOM	750	OE1	GLN	92	22.517	46.899	115.985	1.00	12.06	HIGL
ATOM	751	NE2	GLN	92	23.475	48.685	116.958	1.00	11.96	HIGL
ATOM	752	C	GLN	92	24.786	43.451	118.005	1.00	15.14	HIGL
ATOM	753	O	GLN	92	24.994	42.721	117.033	1.00	14.92	HIGL
ATOM	754	N	THR	93	24.530	42.984	119.222	1.00	15.07	HIGL
ATOM	755	CA	THR	93	24.510	41.561	119.520	1.00	14.27	HIGL
ATOM	756	CB	THR	93	24.672	41.329	121.023	1.00	14.39	HIGL
ATOM	757	OG1	THR	93	25.783	42.100	121.497	1.00	13.20	HIGL
ATOM	758	CG2	THR	93	24.906	39.842	121.315	1.00	12.37	HIGL
ATOM	759	C	THR	93	23.259	40.838	119.070	1.00	15.03	HIGL
ATOM	760	O	THR	93	22.169	41.066	119.600	1.00	15.53	HIGL
ATOM	761	N	THR	94	23.428	39.951	118.097	1.00	14.94	HIGL
ATOM	762	CA	THR	94	22.323	39.162	117.576	1.00	15.30	HIGL
ATOM	763	CB	THR	94	22.818	38.169	116.503	1.00	15.55	HIGL
ATOM	764	OG1	THR	94	23.376	38.893	115.399	1.00	15.22	HIGL
ATOM	765	CG2	THR	94	21.677	37.302	116.013	1.00	15.52	HIGL
ATOM	766	C	THR	94	21.720	38.373	118.732	1.00	15.67	HIGL
ATOM	767	O	THR	94	22.447	37.830	119.563	1.00	15.25	HIGL
ATOM	768	N	PRO	95	20.381	38.309	118.806	1.00	16.47	HIGL
ATOM	769	CD	PRO	95	19.409	38.946	117.901	1.00	16.88	HIGL
ATOM	770	CA	PRO	95	19.695	37.573	119.878	1.00	16.79	HIGL
ATOM	771	CB	PRO	95	18.220	37.690	119.490	1.00	16.02	HIGL
ATOM	772	CG	PRO	95	18.161	38.991	118.754	1.00	16.42	HIGL
ATOM	773	C	PRO	95	20.156	36.119	119.896	1.00	17.32	HIGL
ATOM	774	O	PRO	95	20.230	35.480	118.845	1.00	18.48	HIGL
ATOM	775	N	ALA	96	20.472	35.590	121.073	1.00	17.31	HIGL
ATOM	776	CA	ALA	96	20.903	34.196	121.149	1.00	17.43	HIGL
ATOM	777	CB	ALA	96	21.086	33.769	122.598	1.00	17.13	HIGL
ATOM	778	C	ALA	96	19.821	33.356	120.495	1.00	16.72	HIGL
ATOM	779	O	ALA	96	18.636	33.612	120.693	1.00	15.96	HIGL

Fig. 2 cont.

58/174

ATOM	780	N	GLY	97	20.229	32.371	119.700	1.00	17.32	HIGL
ATOM	781	CA	GLY	97	19.263	31.515	119.031	1.00	17.04	HIGL
ATOM	782	C	GLY	97	19.001	31.856	117.573	1.00	17.23	HIGL
ATOM	783	O	GLY	97	18.675	30.976	116.783	1.00	17.90	HIGL
ATOM	784	N	TRP	98	19.135	33.124	117.205	1.00	16.99	HIGL
ATOM	785	CA	TRP	98	18.907	33.524	115.820	1.00	17.97	HIGL
ATOM	786	CB	TRP	98	18.901	35.051	115.726	1.00	18.18	HIGL
ATOM	787	CG	TRP	98	17.627	35.621	116.258	1.00	18.37	HIGL
ATOM	788	CD2	TRP	98	17.022	36.870	115.907	1.00	18.66	HIGL
ATOM	789	CE2	TRP	98	15.824	36.978	116.650	1.00	18.98	HIGL
ATOM	790	CE3	TRP	98	17.372	37.909	115.036	1.00	18.95	HIGL
ATOM	791	CD1	TRP	98	16.798	35.041	117.175	1.00	18.96	HIGL
ATOM	792	NE1	TRP	98	15.714	35.846	117.415	1.00	19.48	HIGL
ATOM	793	CZ2	TRP	98	14.973	38.083	116.550	1.00	18.24	HIGL
ATOM	794	CZ3	TRP	98	16.521	39.011	114.936	1.00	18.88	HIGL
ATOM	795	CH2	TRP	98	15.336	39.085	115.690	1.00	18.43	HIGL
ATOM	796	C	TRP	98	19.939	32.897	114.877	1.00	17.57	HIGL
ATOM	797	O	TRP	98	21.042	32.569	115.285	1.00	17.56	HIGL
ATOM	798	N	PRO	99	19.577	32.707	113.601	1.00	17.79	HIGL
ATOM	799	CD	PRO	99	18.219	32.889	113.063	1.00	17.38	HIGL
ATOM	800	CA	PRO	99	20.459	32.106	112.594	1.00	17.62	HIGL
ATOM	801	CB	PRO	99	19.578	32.055	111.342	1.00	17.40	HIGL
ATOM	802	CG	PRO	99	18.491	33.041	111.616	1.00	18.07	HIGL
ATOM	803	C	PRO	99	21.842	32.693	112.326	1.00	17.38	HIGL
ATOM	804	O	PRO	99	22.147	33.820	112.709	1.00	17.86	HIGL
ATOM	805	N	SER	100	22.670	31.887	111.660	1.00	17.52	HIGL
ATOM	806	CA	SER	100	24.045	32.240	111.323	1.00	16.92	HIGL
ATOM	807	CB	SER	100	24.992	31.142	111.793	1.00	16.67	HIGL
ATOM	808	OG	SER	100	24.564	30.601	113.025	1.00	20.79	HIGL
ATOM	809	C	SER	100	24.283	32.452	109.833	1.00	16.73	HIGL
ATOM	810	O	SER	100	25.419	32.675	109.423	1.00	17.27	HIGL
ATOM	811	N	ASP	101	23.247	32.336	109.012	1.00	16.22	HIGL
ATOM	812	CA	ASP	101	23.422	32.564	107.579	1.00	16.38	HIGL
ATOM	813	CB	ASP	101	23.121	31.303	106.751	1.00	16.22	HIGL
ATOM	814	CG	ASP	101	21.708	30.805	106.929	1.00	15.46	HIGL
ATOM	815	OD1	ASP	101	21.423	30.151	107.950	1.00	16.82	HIGL
ATOM	816	OD2	ASP	101	20.877	31.073	106.047	1.00	16.15	HIGL
ATOM	817	C	ASP	101	22.494	33.707	107.201	1.00	16.52	HIGL
ATOM	818	O	ASP	101	21.387	33.825	107.736	1.00	16.54	HIGL
ATOM	819	N	ILE	102	22.957	34.545	106.280	1.00	15.85	HIGL
ATOM	820	CA	ILE	102	22.220	35.727	105.871	1.00	15.30	HIGL
ATOM	821	CB	ILE	102	22.958	36.484	104.746	1.00	14.62	HIGL
ATOM	822	CG2	ILE	102	22.862	35.709	103.433	1.00	14.59	HIGL
ATOM	823	CG1	ILE	102	22.361	37.884	104.594	1.00	13.26	HIGL
ATOM	824	CD1	ILE	102	22.438	38.731	105.856	1.00	10.57	HIGL
ATOM	825	C	ILE	102	20.779	35.519	105.452	1.00	16.31	HIGL
ATOM	826	O	ILE	102	19.929	36.365	105.739	1.00	17.53	HIGL
ATOM	827	N	ASN	103	20.486	34.409	104.784	1.00	15.84	HIGL
ATOM	828	CA	ASN	103	19.118	34.174	104.347	1.00	15.26	HIGL
ATOM	829	CB	ASN	103	19.056	33.026	103.345	1.00	16.44	HIGL
ATOM	830	CG	ASN	103	17.643	32.754	102.881	1.00	17.90	HIGL
ATOM	831	OD1	ASN	103	17.012	33.606	102.251	1.00	17.31	HIGL
ATOM	832	ND2	ASN	103	17.128	31.568	103.207	1.00	18.73	HIGL
ATOM	833	C	ASN	103	18.195	33.872	105.520	1.00	14.76	HIGL
ATOM	834	O	ASN	103	17.081	34.390	105.592	1.00	14.43	HIGL
ATOM	835	N	ASN	104	18.655	33.029	106.437	1.00	14.10	HIGL
ATOM	836	CA	ASN	104	17.849	32.684	107.598	1.00	13.79	HIGL
ATOM	837	CB	ASN	104	18.391	31.424	108.277	1.00	13.76	HIGL
ATOM	838	CG	ASN	104	17.923	30.149	107.594	1.00	14.35	HIGL
ATOM	839	OD1	ASN	104	16.738	30.006	107.264	1.00	13.83	HIGL
ATOM	840	ND2	ASN	104	18.843	29.212	107.392	1.00	11.49	HIGL
ATOM	841	C	ASN	104	17.766	33.822	108.603	1.00	13.46	HIGL
ATOM	842	O	ASN	104	16.706	34.066	109.169	1.00	13.67	HIGL
ATOM	843	N	LEU	105	18.875	34.522	108.824	1.00	13.84	HIGL
ATOM	844	CA	LEU	105	18.885	35.640	109.762	1.00	14.45	HIGL

Fig. 2 cont.

59/174

ATOM	845	CB	LEU	105	20.282	36.256	109.855	1.00	14.35	HIGL
ATOM	846	CG	LEU	105	20.373	37.492	110.754	1.00	15.28	HIGL
ATOM	847	CD1	LEU	105	19.941	37.133	112.168	1.00	14.98	HIGL
ATOM	848	CD2	LEU	105	21.791	38.025	110.756	1.00	15.43	HIGL
ATOM	849	C	LEU	105	17.891	36.694	109.291	1.00	15.25	HIGL
ATOM	850	O	LEU	105	17.087	37.204	110.074	1.00	14.19	HIGL
ATOM	851	N	ALA	106	17.956	37.009	108.000	1.00	15.85	HIGL
ATOM	852	CA	ALA	106	17.067	37.990	107.399	1.00	17.40	HIGL
ATOM	853	CB	ALA	106	17.417	38.177	105.916	1.00	15.61	HIGL
ATOM	854	C	ALA	106	15.618	37.532	107.548	1.00	18.34	HIGL
ATOM	855	O	ALA	106	14.730	38.326	107.859	1.00	19.25	HIGL
ATOM	856	N	TRP	107	15.390	36.245	107.320	1.00	19.52	HIGL
ATOM	857	CA	TRP	107	14.060	35.663	107.430	1.00	20.70	HIGL
ATOM	858	CB	TRP	107	14.140	34.177	107.104	1.00	22.69	HIGL
ATOM	859	CG	TRP	107	12.847	33.566	106.709	1.00	26.10	HIGL
ATOM	860	CD2	TRP	107	12.607	32.179	106.453	1.00	27.36	HIGL
ATOM	861	CE2	TRP	107	11.256	32.056	106.055	1.00	28.11	HIGL
ATOM	862	CE3	TRP	107	13.404	31.028	106.517	1.00	27.84	HIGL
ATOM	863	CD1	TRP	107	11.665	34.212	106.466	1.00	26.98	HIGL
ATOM	864	NE1	TRP	107	10.705	33.310	106.072	1.00	27.36	HIGL
ATOM	865	CZ2	TRP	107	10.683	30.821	105.720	1.00	28.94	HIGL
ATOM	866	CZ3	TRP	107	12.836	29.804	106.184	1.00	28.94	HIGL
ATOM	867	CH2	TRP	107	11.487	29.711	105.790	1.00	28.79	HIGL
ATOM	868	C	TRP	107	13.567	35.862	108.862	1.00	20.80	HIGL
ATOM	869	O	TRP	107	12.428	36.280	109.097	1.00	19.49	HIGL
ATOM	870	N	LYS	108	14.453	35.567	109.812	1.00	20.81	HIGL
ATOM	871	CA	LYS	108	14.158	35.707	111.231	1.00	20.77	HIGL
ATOM	872	CB	LYS	108	15.358	35.255	112.070	1.00	21.15	HIGL
ATOM	873	CG	LYS	108	15.018	34.250	113.161	1.00	22.88	HIGL
ATOM	874	CD	LYS	108	13.942	34.770	114.100	1.00	23.37	HIGL
ATOM	875	CE	LYS	108	13.525	33.698	115.088	1.00	23.83	HIGL
ATOM	876	NZ	LYS	108	12.322	34.107	115.853	1.00	24.90	HIGL
ATOM	877	C	LYS	108	13.830	37.161	111.554	1.00	19.90	HIGL
ATOM	878	O	LYS	108	12.836	37.450	112.214	1.00	20.08	HIGL
ATOM	879	N	LEU	109	14.674	38.074	111.094	1.00	19.75	HIGL
ATOM	880	CA	LEU	109	14.445	39.488	111.344	1.00	19.93	HIGL
ATOM	881	CB	LEU	109	15.508	40.337	110.654	1.00	17.82	HIGL
ATOM	882	CG	LEU	109	15.390	41.827	110.968	1.00	17.82	HIGL
ATOM	883	CD1	LEU	109	15.672	42.054	112.449	1.00	16.38	HIGL
ATOM	884	CD2	LEU	109	16.368	42.620	110.103	1.00	16.81	HIGL
ATOM	885	C	LEU	109	13.063	39.861	110.822	1.00	20.34	HIGL
ATOM	886	O	LEU	109	12.362	40.679	111.423	1.00	20.28	HIGL
ATOM	887	N	TYR	110	12.679	39.247	109.704	1.00	20.51	HIGL
ATOM	888	CA	TYR	110	11.377	39.489	109.100	1.00	20.92	HIGL
ATOM	889	CB	TYR	110	11.309	38.862	107.704	1.00	21.24	HIGL
ATOM	890	CG	TYR	110	9.918	38.842	107.101	1.00	21.40	HIGL
ATOM	891	CD1	TYR	110	9.064	37.757	107.292	1.00	22.61	HIGL
ATOM	892	CE1	TYR	110	7.771	37.748	106.754	1.00	22.76	HIGL
ATOM	893	CD2	TYR	110	9.445	39.922	106.358	1.00	23.16	HIGL
ATOM	894	CE2	TYR	110	8.155	39.926	105.817	1.00	22.90	HIGL
ATOM	895	CZ	TYR	110	7.325	38.838	106.018	1.00	23.09	HIGL
ATOM	896	OH	TYR	110	6.056	38.849	105.482	1.00	22.70	HIGL
ATOM	897	C	TYR	110	10.249	38.938	109.972	1.00	21.45	HIGL
ATOM	898	O	TYR	110	9.312	39.671	110.303	1.00	22.10	HIGL
ATOM	899	N	ASN	111	10.326	37.659	110.344	1.00	20.73	HIGL
ATOM	900	CA	ASN	111	9.281	37.073	111.182	1.00	20.87	HIGL
ATOM	901	CB	ASN	111	9.589	35.619	111.546	1.00	23.22	HIGL
ATOM	902	CG	ASN	111	9.612	34.699	110.348	1.00	26.49	HIGL
ATOM	903	OD1	ASN	111	9.040	35.005	109.301	1.00	27.21	HIGL
ATOM	904	ND2	ASN	111	10.265	33.552	110.516	1.00	29.16	HIGL
ATOM	905	C	ASN	111	9.147	37.864	112.474	1.00	19.60	HIGL
ATOM	906	O	ASN	111	8.039	38.190	112.905	1.00	19.02	HIGL
ATOM	907	N	TYR	112	10.288	38.169	113.084	1.00	18.21	HIGL
ATOM	908	CA	TYR	112	10.310	38.905	114.337	1.00	16.83	HIGL
ATOM	909	CB	TYR	112	11.751	39.129	114.810	1.00	16.36	HIGL

Fig. 2 cont.

60/174

ATOM	910	CG	TYR	112	11.839	40.071	115.991	1.00	14.95	HIGL
ATOM	911	CD1	TYR	112	11.369	39.691	117.245	1.00	15.11	HIGL
ATOM	912	CE1	TYR	112	11.369	40.581	118.316	1.00	14.94	HIGL
ATOM	913	CD2	TYR	112	12.319	41.366	115.836	1.00	14.45	HIGL
ATOM	914	CE2	TYR	112	12.323	42.264	116.897	1.00	14.83	HIGL
ATOM	915	CZ	TYR	112	11.847	41.866	118.133	1.00	14.96	HIGL
ATOM	916	OH	TYR	112	11.848	42.754	119.182	1.00	15.27	HIGL
ATOM	917	C	TYR	112	9.601	40.243	114.224	1.00	16.36	HIGL
ATOM	918	O	TYR	112	8.686	40.534	114.999	1.00	15.41	HIGL
ATOM	919	N	THR	113	10.034	41.056	113.265	1.00	16.21	HIGL
ATOM	920	CA	THR	113	9.443	42.369	113.058	1.00	15.87	HIGL
ATOM	921	CB	THR	113	10.142	43.125	111.922	1.00	16.16	HIGL
ATOM	922	OG1	THR	113	11.537	43.252	112.221	1.00	15.12	HIGL
ATOM	923	CG2	THR	113	9.537	44.515	111.758	1.00	15.98	HIGL
ATOM	924	C	THR	113	7.973	42.216	112.717	1.00	16.24	HIGL
ATOM	925	O	THR	113	7.124	42.896	113.290	1.00	16.57	HIGL
ATOM	926	N	LEU	114	7.678	41.307	111.790	1.00	16.92	HIGL
ATOM	927	CA	LEU	114	6.304	41.043	111.366	1.00	16.65	HIGL
ATOM	928	CB	LEU	114	6.264	39.849	110.411	1.00	15.97	HIGL
ATOM	929	CG	LEU	114	4.861	39.423	109.964	1.00	16.54	HIGL
ATOM	930	CD1	LEU	114	4.220	40.543	109.154	1.00	15.93	HIGL
ATOM	931	CD2	LEU	114	4.948	38.144	109.146	1.00	14.91	HIGL
ATOM	932	C	LEU	114	5.404	40.754	112.565	1.00	16.56	HIGL
ATOM	933	O	LEU	114	4.420	41.450	112.799	1.00	16.01	HIGL
ATOM	934	N	ASP	115	5.749	39.720	113.320	1.00	16.95	HIGL
ATOM	935	CA	ASP	115	4.967	39.347	114.484	1.00	17.44	HIGL
ATOM	936	CB	ASP	115	5.562	38.104	115.139	1.00	18.68	HIGL
ATOM	937	CG	ASP	115	5.489	36.884	114.235	1.00	20.91	HIGL
ATOM	938	OD1	ASP	115	4.994	37.019	113.095	1.00	20.18	HIGL
ATOM	939	OD2	ASP	115	5.928	35.789	114.658	1.00	22.87	HIGL
ATOM	940	C	ASP	115	4.879	40.481	115.491	1.00	17.05	HIGL
ATOM	941	O	ASP	115	3.813	40.732	116.048	1.00	16.42	HIGL
ATOM	942	N	SER	116	5.990	41.174	115.713	1.00	16.71	HIGL
ATOM	943	CA	SER	116	6.005	42.279	116.660	1.00	17.19	HIGL
ATOM	944	CB	SER	116	7.409	42.869	116.774	1.00	17.37	HIGL
ATOM	945	OG	SER	116	8.307	41.969	117.391	1.00	17.53	HIGL
ATOM	946	C	SER	116	5.023	43.381	116.262	1.00	18.12	HIGL
ATOM	947	O	SER	116	4.231	43.847	117.084	1.00	17.59	HIGL
ATOM	948	N	MET	117	5.080	43.812	115.008	1.00	18.86	HIGL
ATOM	949	CA	MET	117	4.176	44.856	114.552	1.00	19.77	HIGL
ATOM	950	CB	MET	117	4.525	45.262	113.125	1.00	19.25	HIGL
ATOM	951	CG	MET	117	5.862	45.989	113.006	1.00	18.96	HIGL
ATOM	952	SD	MET	117	5.846	47.687	113.654	1.00	20.56	HIGL
ATOM	953	CE	MET	117	6.173	47.395	115.398	1.00	20.80	HIGL
ATOM	954	C	MET	117	2.729	44.384	114.641	1.00	20.69	HIGL
ATOM	955	O	MET	117	1.843	45.134	115.056	1.00	19.86	HIGL
ATOM	956	N	ASN	118	2.488	43.132	114.266	1.00	22.17	HIGL
ATOM	957	CA	ASN	118	1.137	42.589	114.327	1.00	23.55	HIGL
ATOM	958	CB	ASN	118	1.081	41.192	113.704	1.00	22.99	HIGL
ATOM	959	CG	ASN	118	0.966	41.236	112.197	1.00	24.24	HIGL
ATOM	960	OD1	ASN	118	0.231	42.054	111.648	1.00	24.38	HIGL
ATOM	961	ND2	ASN	118	1.680	40.345	111.516	1.00	25.71	HIGL
ATOM	962	C	ASN	118	0.665	42.536	115.772	1.00	24.12	HIGL
ATOM	963	O	ASN	118	-0.532	42.535	116.054	1.00	24.65	HIGL
ATOM	964	N	ARG	119	1.617	42.501	116.691	1.00	25.04	HIGL
ATOM	965	CA	ARG	119	1.289	42.457	118.104	1.00	25.97	HIGL
ATOM	966	CB	ARG	119	2.564	42.289	118.916	1.00	27.25	HIGL
ATOM	967	CG	ARG	119	2.324	41.905	120.343	1.00	30.86	HIGL
ATOM	968	CD	ARG	119	1.727	40.518	120.464	1.00	32.19	HIGL
ATOM	969	NE	ARG	119	1.381	40.252	121.856	1.00	35.20	HIGL
ATOM	970	CZ	ARG	119	2.266	40.036	122.826	1.00	35.79	HIGL
ATOM	971	NH1	ARG	119	3.566	40.038	122.564	1.00	35.68	HIGL
ATOM	972	NH2	ARG	119	1.845	39.846	124.070	1.00	37.32	HIGL
ATOM	973	C	ARG	119	0.572	43.755	118.483	1.00	26.06	HIGL
ATOM	974	O	ARG	119	-0.406	43.744	119.234	1.00	26.17	HIGL

Fig. 2 cont.

61/174

ATOM	975	N	PHE	120	1.058	44.874	117.952	1.00	25.97	HIGL
ATOM	976	CA	PHE	120	0.438	46.166	118.218	1.00	25.91	HIGL
ATOM	977	CB	PHE	120	1.369	47.312	117.811	1.00	24.71	HIGL
ATOM	978	CG	PHE	120	2.516	47.519	118.748	1.00	23.82	HIGL
ATOM	979	CD1	PHE	120	3.748	46.923	118.508	1.00	24.05	HIGL
ATOM	980	CD2	PHE	120	2.356	48.289	119.892	1.00	23.49	HIGL
ATOM	981	CE1	PHE	120	4.806	47.088	119.396	1.00	23.14	HIGL
ATOM	982	CE2	PHE	120	3.407	48.461	120.788	1.00	23.31	HIGL
ATOM	983	CZ	PHE	120	4.632	47.860	120.540	1.00	23.49	HIGL
ATOM	984	C	PHE	120	-0.879	46.283	117.452	1.00	26.35	HIGL
ATOM	985	O	PHE	120	-1.879	46.758	117.988	1.00	26.78	HIGL
ATOM	986	N	ALA	121	-0.870	45.844	116.198	1.00	26.40	HIGL
ATOM	987	CA	ALA	121	-2.058	45.891	115.357	1.00	26.80	HIGL
ATOM	988	CB	ALA	121	-1.755	45.280	114.003	1.00	27.18	HIGL
ATOM	989	C	ALA	121	-3.211	45.143	116.016	1.00	27.34	HIGL
ATOM	990	O	ALA	121	-4.314	45.674	116.152	1.00	27.77	HIGL
ATOM	991	N	ASP	122	-2.948	43.905	116.423	1.00	26.89	HIGL
ATOM	992	CA	ASP	122	-3.965	43.084	117.063	1.00	26.21	HIGL
ATOM	993	CB	ASP	122	-3.436	41.665	117.303	1.00	25.67	HIGL
ATOM	994	CG	ASP	122	-3.074	40.950	116.012	1.00	25.38	HIGL
ATOM	995	OD1	ASP	122	-3.544	41.379	114.929	1.00	24.57	HIGL
ATOM	996	OD2	ASP	122	-2.328	39.950	116.069	1.00	24.15	HIGL
ATOM	997	C	ASP	122	-4.414	43.686	118.389	1.00	26.13	HIGL
ATOM	998	O	ASP	122	-5.549	43.478	118.822	1.00	26.95	HIGL
ATOM	999	N	ALA	123	-3.517	44.427	119.033	1.00	24.90	HIGL
ATOM	1000	CA	ALA	123	-3.821	45.053	120.308	1.00	22.75	HIGL
ATOM	1001	CB	ALA	123	-2.548	45.330	121.058	1.00	23.23	HIGL
ATOM	1002	C	ALA	123	-4.595	46.344	120.102	1.00	22.12	HIGL
ATOM	1003	O	ALA	123	-5.085	46.935	121.058	1.00	22.33	HIGL
ATOM	1004	N	GLY	124	-4.704	46.778	118.850	1.00	21.85	HIGL
ATOM	1005	CA	GLY	124	-5.424	48.002	118.548	1.00	21.93	HIGL
ATOM	1006	C	GLY	124	-4.604	49.253	118.809	1.00	22.90	HIGL
ATOM	1007	O	GLY	124	-5.150	50.350	118.957	1.00	22.21	HIGL
ATOM	1008	N	ILE	125	-3.286	49.078	118.876	1.00	23.51	HIGL
ATOM	1009	CA	ILE	125	-2.352	50.174	119.113	1.00	23.71	HIGL
ATOM	1010	CB	ILE	125	-1.132	49.706	119.949	1.00	24.28	HIGL
ATOM	1011	CG2	ILE	125	-0.171	50.871	120.153	1.00	22.68	HIGL
ATOM	1012	CG1	ILE	125	-1.587	49.094	121.283	1.00	24.08	HIGL
ATOM	1013	CD1	ILE	125	-2.168	50.078	122.258	1.00	24.75	HIGL
ATOM	1014	C	ILE	125	-1.817	50.648	117.765	1.00	24.07	HIGL
ATOM	1015	O	ILE	125	-1.416	49.837	116.939	1.00	24.23	HIGL
ATOM	1016	N	GLN	126	-1.805	51.952	117.533	1.00	24.42	HIGL
ATOM	1017	CA	GLN	126	-1.282	52.451	116.274	1.00	25.40	HIGL
ATOM	1018	CB	GLN	126	-2.112	53.631	115.766	1.00	26.92	HIGL
ATOM	1019	CG	GLN	126	-1.591	54.243	114.464	1.00	29.76	HIGL
ATOM	1020	CD	GLN	126	-1.473	53.223	113.329	1.00	32.33	HIGL
ATOM	1021	OE1	GLN	126	-2.456	52.570	112.953	1.00	33.86	HIGL
ATOM	1022	NE2	GLN	126	-0.267	53.086	112.777	1.00	31.82	HIGL
ATOM	1023	C	GLN	126	0.174	52.883	116.424	1.00	25.09	HIGL
ATOM	1024	O	GLN	126	0.494	53.731	117.260	1.00	25.29	HIGL
ATOM	1025	N	VAL	127	1.046	52.280	115.617	1.00	23.64	HIGL
ATOM	1026	CA	VAL	127	2.465	52.605	115.614	1.00	21.87	HIGL
ATOM	1027	CB	VAL	127	3.329	51.373	115.255	1.00	21.30	HIGL
ATOM	1028	CG1	VAL	127	4.800	51.730	115.338	1.00	20.09	HIGL
ATOM	1029	CG2	VAL	127	3.010	50.217	116.184	1.00	20.69	HIGL
ATOM	1030	C	VAL	127	2.635	53.658	114.526	1.00	21.93	HIGL
ATOM	1031	O	VAL	127	2.268	53.427	113.378	1.00	22.89	HIGL
ATOM	1032	N	ASP	128	3.192	54.809	114.882	1.00	21.66	HIGL
ATOM	1033	CA	ASP	128	3.378	55.896	113.927	1.00	21.09	HIGL
ATOM	1034	CB	ASP	128	3.080	57.211	114.628	1.00	21.65	HIGL
ATOM	1035	CG	ASP	128	1.662	57.260	115.145	1.00	22.08	HIGL
ATOM	1036	OD1	ASP	128	0.744	57.299	114.301	1.00	23.35	HIGL
ATOM	1037	OD2	ASP	128	1.458	57.231	116.380	1.00	22.69	HIGL
ATOM	1038	C	ASP	128	4.746	55.932	113.256	1.00	21.00	HIGL
ATOM	1039	O	ASP	128	4.854	56.276	112.077	1.00	20.64	HIGL

Fig. 2 cont.

62/174

ATOM	1040	N	ILE	129	5.786	55.587	114.010	1.00	19.93	HIGL
ATOM	1041	CA	ILE	129	7.139	55.535	113.472	1.00	18.94	HIGL
ATOM	1042	CB	ILE	129	7.999	56.721	113.927	1.00	17.89	HIGL
ATOM	1043	CG2	ILE	129	9.425	56.533	113.444	1.00	16.07	HIGL
ATOM	1044	CG1	ILE	129	7.440	58.027	113.375	1.00	17.25	HIGL
ATOM	1045	CD1	ILE	129	8.207	59.241	113.843	1.00	16.76	HIGL
ATOM	1046	C	ILE	129	7.808	54.267	113.985	1.00	19.57	HIGL
ATOM	1047	O	ILE	129	7.591	53.867	115.130	1.00	20.12	HIGL
ATOM	1048	N	VAL	130	8.614	53.640	113.133	1.00	19.09	HIGL
ATOM	1049	CA	VAL	130	9.343	52.430	113.497	1.00	18.61	HIGL
ATOM	1050	CB	VAL	130	8.734	51.154	112.868	1.00	19.46	HIGL
ATOM	1051	CG1	VAL	130	9.424	49.923	113.431	1.00	18.88	HIGL
ATOM	1052	CG2	VAL	130	7.255	51.087	113.133	1.00	21.50	HIGL
ATOM	1053	C	VAL	130	10.762	52.531	112.962	1.00	17.57	HIGL
ATOM	1054	O	VAL	130	10.962	52.707	111.759	1.00	17.98	HIGL
ATOM	1055	N	SER	131	11.749	52.439	113.843	1.00	15.84	HIGL
ATOM	1056	CA	SER	131	13.127	52.470	113.377	1.00	14.70	HIGL
ATOM	1057	CB	SER	131	14.038	53.282	114.314	1.00	15.28	HIGL
ATOM	1058	OG	SER	131	14.319	52.589	115.514	1.00	18.11	HIGL
ATOM	1059	C	SER	131	13.565	51.018	113.345	1.00	12.96	HIGL
ATOM	1060	O	SER	131	13.436	50.299	114.335	1.00	11.68	HIGL
ATOM	1061	N	ILE	132	14.039	50.572	112.191	1.00	10.75	HIGL
ATOM	1062	CA	ILE	132	14.492	49.207	112.073	1.00	10.19	HIGL
ATOM	1063	CB	ILE	132	14.319	48.707	110.632	1.00	10.00	HIGL
ATOM	1064	CG2	ILE	132	12.858	48.371	110.380	1.00	9.71	HIGL
ATOM	1065	CG1	ILE	132	14.785	49.781	109.646	1.00	10.09	HIGL
ATOM	1066	CD1	ILE	132	14.716	49.350	108.198	1.00	10.00	HIGL
ATOM	1067	C	ILE	132	15.954	49.155	112.508	1.00	10.16	HIGL
ATOM	1068	O	ILE	132	16.869	49.045	111.693	1.00	9.89	HIGL
ATOM	1069	N	GLY	133	16.160	49.253	113.814	1.00	9.99	HIGL
ATOM	1070	CA	GLY	133	17.500	49.230	114.364	1.00	10.91	HIGL
ATOM	1071	C	GLY	133	17.711	50.461	115.220	1.00	11.73	HIGL
ATOM	1072	O	GLY	133	16.885	51.378	115.193	1.00	11.22	HIGL
ATOM	1073	N	ASN	134	18.804	50.482	115.983	1.00	12.81	HIGL
ATOM	1074	CA	ASN	134	19.119	51.621	116.843	1.00	11.67	HIGL
ATOM	1075	CB	ASN	134	18.878	51.271	118.307	1.00	11.03	HIGL
ATOM	1076	CG	ASN	134	19.010	52.481	119.217	1.00	11.61	HIGL
ATOM	1077	OD1	ASN	134	18.116	53.328	119.269	1.00	9.26	HIGL
ATOM	1078	ND2	ASN	134	20.140	52.579	119.923	1.00	10.03	HIGL
ATOM	1079	C	ASN	134	20.578	52.041	116.673	1.00	12.23	HIGL
ATOM	1080	O	ASN	134	21.488	51.299	117.047	1.00	12.50	HIGL
ATOM	1081	N	GLU	135	20.796	53.237	116.130	1.00	12.34	HIGL
ATOM	1082	CA	GLU	135	22.148	53.745	115.905	1.00	12.34	HIGL
ATOM	1083	CB	GLU	135	22.819	54.137	117.233	1.00	12.86	HIGL
ATOM	1084	CG	GLU	135	22.107	55.229	118.021	1.00	13.57	HIGL
ATOM	1085	CD	GLU	135	22.988	55.855	119.109	1.00	14.70	HIGL
ATOM	1086	OE1	GLU	135	23.605	55.107	119.895	1.00	13.98	HIGL
ATOM	1087	OE2	GLU	135	23.059	57.100	119.186	1.00	14.17	HIGL
ATOM	1088	C	GLU	135	22.980	52.662	115.217	1.00	11.83	HIGL
ATOM	1089	O	GLU	135	24.062	52.307	115.689	1.00	11.40	HIGL
ATOM	1090	N	ILE	136	22.464	52.139	114.107	1.00	11.55	HIGL
ATOM	1091	CA	ILE	136	23.145	51.086	113.366	1.00	12.33	HIGL
ATOM	1092	CB	ILE	136	22.134	50.255	112.537	1.00	11.21	HIGL
ATOM	1093	CG2	ILE	136	21.187	49.523	113.478	1.00	11.90	HIGL
ATOM	1094	CG1	ILE	136	21.346	51.166	111.583	1.00	10.88	HIGL
ATOM	1095	CD1	ILE	136	20.307	50.439	110.712	1.00	5.41	HIGL
ATOM	1096	C	ILE	136	24.272	51.570	112.446	1.00	13.31	HIGL
ATOM	1097	O	ILE	136	24.512	50.981	111.397	1.00	13.57	HIGL
ATOM	1098	N	THR	137	24.978	52.621	112.860	1.00	14.02	HIGL
ATOM	1099	CA	THR	137	26.076	53.177	112.073	1.00	15.42	HIGL
ATOM	1100	CB	THR	137	26.796	54.290	112.828	1.00	15.31	HIGL
ATOM	1101	OG1	THR	137	25.835	55.190	113.390	1.00	15.48	HIGL
ATOM	1102	CG2	THR	137	27.705	55.043	111.887	1.00	13.55	HIGL
ATOM	1103	C	THR	137	27.128	52.139	111.688	1.00	16.83	HIGL
ATOM	1104	O	THR	137	27.690	52.197	110.595	1.00	17.91	HIGL

Fig. 2 cont.

63/174

ATOM	1105	N	GLN	138	27.421	51.214	112.596	1.00	17.23	HIGL
ATOM	1106	CA	GLN	138	28.396	50.166	112.308	1.00	17.23	HIGL
ATOM	1107	CB	GLN	138	29.328	49.926	113.503	1.00	18.55	HIGL
ATOM	1108	CG	GLN	138	30.240	51.101	113.856	1.00	22.06	HIGL
ATOM	1109	CD	GLN	138	30.963	51.687	112.642	1.00	24.27	HIGL
ATOM	1110	OE1	GLN	138	31.641	50.975	111.897	1.00	24.26	HIGL
ATOM	1111	NE2	GLN	138	30.821	52.997	112.445	1.00	24.87	HIGL
ATOM	1112	C	GLN	138	27.633	48.886	111.985	1.00	16.30	HIGL
ATOM	1113	O	GLN	138	28.133	47.774	112.187	1.00	15.80	HIGL
ATOM	1114	N	GLY	139	26.411	49.059	111.490	1.00	14.43	HIGL
ATOM	1115	CA	GLY	139	25.590	47.917	111.138	1.00	14.15	HIGL
ATOM	1116	C	GLY	139	24.778	47.376	112.304	1.00	13.48	HIGL
ATOM	1117	O	GLY	139	24.703	48.001	113.363	1.00	11.76	HIGL
ATOM	1118	N	LEU	140	24.175	46.207	112.098	1.00	12.77	HIGL
ATOM	1119	CA	LEU	140	23.353	45.562	113.114	1.00	12.79	HIGL
ATOM	1120	CB	LEU	140	21.878	45.922	112.917	1.00	12.46	HIGL
ATOM	1121	CG	LEU	140	21.162	45.335	111.695	1.00	12.85	HIGL
ATOM	1122	CD1	LEU	140	19.672	45.582	111.817	1.00	13.35	HIGL
ATOM	1123	CD2	LEU	140	21.687	45.954	110.416	1.00	12.87	HIGL
ATOM	1124	C	LEU	140	23.504	44.055	113.010	1.00	13.36	HIGL
ATOM	1125	O	LEU	140	24.120	43.554	112.072	1.00	13.25	HIGL
ATOM	1126	N	LEU	141	22.937	43.342	113.980	1.00	13.28	HIGL
ATOM	1127	CA	LEU	141	22.975	41.883	114.008	1.00	12.60	HIGL
ATOM	1128	CB	LEU	141	21.895	41.340	113.069	1.00	10.91	HIGL
ATOM	1129	CG	LEU	141	20.481	41.627	113.587	1.00	10.89	HIGL
ATOM	1130	CD1	LEU	141	19.432	41.270	112.543	1.00	9.50	HIGL
ATOM	1131	CD2	LEU	141	20.264	40.846	114.880	1.00	8.29	HIGL
ATOM	1132	C	LEU	141	24.337	41.284	113.656	1.00	13.21	HIGL
ATOM	1133	O	LEU	141	24.462	40.504	112.708	1.00	14.64	HIGL
ATOM	1134	N	TRP	142	25.353	41.644	114.432	1.00	13.26	HIGL
ATOM	1135	CA	TRP	142	26.705	41.149	114.204	1.00	13.14	HIGL
ATOM	1136	CB	TRP	142	27.686	41.859	115.130	1.00	11.33	HIGL
ATOM	1137	CG	TRP	142	27.757	43.330	114.910	1.00	10.90	HIGL
ATOM	1138	CD2	TRP	142	28.488	44.272	115.695	1.00	11.10	HIGL
ATOM	1139	CE2	TRP	142	28.289	45.545	115.113	1.00	11.19	HIGL
ATOM	1140	CE3	TRP	142	29.290	44.167	116.835	1.00	10.40	HIGL
ATOM	1141	CD1	TRP	142	27.158	44.046	113.911	1.00	10.69	HIGL
ATOM	1142	NE1	TRP	142	27.474	45.379	114.025	1.00	10.00	HIGL
ATOM	1143	CZ2	TRP	142	28.869	46.705	115.635	1.00	11.44	HIGL
ATOM	1144	CZ3	TRP	142	29.863	45.319	117.353	1.00	11.67	HIGL
ATOM	1145	CH2	TRP	142	29.650	46.573	116.750	1.00	11.55	HIGL
ATOM	1146	C	TRP	142	26.768	39.652	114.442	1.00	13.84	HIGL
ATOM	1147	O	TRP	142	26.046	39.126	115.286	1.00	14.95	HIGL
ATOM	1148	N	PRO	143	27.680	38.952	113.751	1.00	13.87	HIGL
ATOM	1149	CD	PRO	143	27.900	37.534	114.052	1.00	13.74	HIGL
ATOM	1150	CA	PRO	143	28.675	39.417	112.776	1.00	14.76	HIGL
ATOM	1151	CB	PRO	143	29.669	38.253	112.701	1.00	13.49	HIGL
ATOM	1152	CG	PRO	143	29.386	37.438	113.918	1.00	13.80	HIGL
ATOM	1153	C	PRO	143	28.174	39.778	111.381	1.00	15.67	HIGL
ATOM	1154	O	PRO	143	28.703	40.693	110.755	1.00	16.90	HIGL
ATOM	1155	N	LEU	144	27.182	39.044	110.887	1.00	15.74	HIGL
ATOM	1156	CA	LEU	144	26.648	39.272	109.549	1.00	16.05	HIGL
ATOM	1157	CB	LEU	144	25.366	38.459	109.358	1.00	15.16	HIGL
ATOM	1158	CG	LEU	144	25.558	36.942	109.467	1.00	14.79	HIGL
ATOM	1159	CD1	LEU	144	24.214	36.248	109.414	1.00	14.16	HIGL
ATOM	1160	CD2	LEU	144	26.455	36.449	108.331	1.00	14.04	HIGL
ATOM	1161	C	LEU	144	26.397	40.727	109.159	1.00	17.32	HIGL
ATOM	1162	O	LEU	144	26.911	41.191	108.144	1.00	17.71	HIGL
ATOM	1163	N	GLY	145	25.617	41.451	109.956	1.00	17.84	HIGL
ATOM	1164	CA	GLY	145	25.325	42.835	109.617	1.00	17.98	HIGL
ATOM	1165	C	GLY	145	26.335	43.888	110.051	1.00	18.71	HIGL
ATOM	1166	O	GLY	145	26.008	45.077	110.123	1.00	19.15	HIGL
ATOM	1167	N	LYS	146	27.560	43.477	110.341	1.00	18.29	HIGL
ATOM	1168	CA	LYS	146	28.575	44.428	110.762	1.00	19.30	HIGL
ATOM	1169	CB	LYS	146	29.733	43.687	111.423	1.00	18.95	HIGL

Fig. 2 cont.

64/174

ATOM	1170	CG	LYS	146	30.533	44.508	112.414	1.00	18.69	HIGL
ATOM	1171	CD	LYS	146	31.624	43.643	113.039	1.00	20.37	HIGL
ATOM	1172	CE	LYS	146	32.528	44.430	113.984	1.00	20.86	HIGL
ATOM	1173	NZ	LYS	146	31.799	44.955	115.162	1.00	21.63	HIGL
ATOM	1174	C	LYS	146	29.062	45.228	109.550	1.00	20.47	HIGL
ATOM	1175	O	LYS	146	29.211	44.685	108.453	1.00	19.27	HIGL
ATOM	1176	N	THR	147	29.312	46.519	109.752	1.00	21.74	HIGL
ATOM	1177	CA	THR	147	29.746	47.374	108.659	1.00	23.27	HIGL
ATOM	1178	CB	THR	147	30.212	48.734	109.130	1.00	22.61	HIGL
ATOM	1179	OG1	THR	147	30.794	48.619	110.430	1.00	23.56	HIGL
ATOM	1180	CG2	THR	147	29.050	49.703	109.127	1.00	23.05	HIGL
ATOM	1181	C	THR	147	30.817	46.833	107.747	1.00	24.76	HIGL
ATOM	1182	O	THR	147	31.763	46.161	108.173	1.00	24.27	HIGL
ATOM	1183	N	ASN	148	30.631	47.193	106.478	1.00	26.25	HIGL
ATOM	1184	CA	ASN	148	31.456	46.818	105.346	1.00	26.20	HIGL
ATOM	1185	CB	ASN	148	32.917	46.692	105.763	1.00	26.56	HIGL
ATOM	1186	CG	ASN	148	33.560	48.057	105.998	1.00	26.62	HIGL
ATOM	1187	OD1	ASN	148	32.903	48.985	106.472	1.00	26.28	HIGL
ATOM	1188	ND2	ASN	148	34.842	48.183	105.670	1.00	25.69	HIGL
ATOM	1189	C	ASN	148	30.865	45.542	104.762	1.00	26.28	HIGL
ATOM	1190	O	ASN	148	31.279	45.076	103.707	1.00	28.00	HIGL
ATOM	1191	N	ASN	149	29.873	44.998	105.464	1.00	25.38	HIGL
ATOM	1192	CA	ASN	149	29.127	43.826	105.007	1.00	24.20	HIGL
ATOM	1193	CB	ASN	149	28.733	42.927	106.177	1.00	24.04	HIGL
ATOM	1194	CG	ASN	149	29.858	42.016	106.615	1.00	24.57	HIGL
ATOM	1195	OD1	ASN	149	31.033	42.309	106.391	1.00	25.70	HIGL
ATOM	1196	ND2	ASN	149	29.505	40.910	107.260	1.00	23.86	HIGL
ATOM	1197	C	ASN	149	27.877	44.466	104.421	1.00	23.50	HIGL
ATOM	1198	O	ASN	149	26.753	44.012	104.637	1.00	24.05	HIGL
ATOM	1199	N	TRP	150	28.101	45.554	103.698	1.00	21.67	HIGL
ATOM	1200	CA	TRP	150	27.039	46.323	103.079	1.00	20.87	HIGL
ATOM	1201	CB	TRP	150	27.649	47.265	102.045	1.00	19.65	HIGL
ATOM	1202	CG	TRP	150	28.654	48.200	102.653	1.00	19.10	HIGL
ATOM	1203	CD2	TRP	150	28.411	49.153	103.697	1.00	19.28	HIGL
ATOM	1204	CE2	TRP	150	29.631	49.828	103.938	1.00	18.98	HIGL
ATOM	1205	CE3	TRP	150	27.278	49.506	104.452	1.00	18.67	HIGL
ATOM	1206	CD1	TRP	150	29.976	48.329	102.315	1.00	18.26	HIGL
ATOM	1207	NE1	TRP	150	30.567	49.306	103.080	1.00	17.94	HIGL
ATOM	1208	CZ2	TRP	150	29.751	50.837	104.902	1.00	19.36	HIGL
ATOM	1209	CZ3	TRP	150	27.395	50.506	105.409	1.00	19.12	HIGL
ATOM	1210	CH2	TRP	150	28.627	51.162	105.626	1.00	19.64	HIGL
ATOM	1211	C	TRP	150	25.939	45.479	102.451	1.00	20.95	HIGL
ATOM	1212	O	TRP	150	24.757	45.801	102.583	1.00	21.08	HIGL
ATOM	1213	N	TYR	151	26.315	44.400	101.769	1.00	20.56	HIGL
ATOM	1214	CA	TYR	151	25.312	43.551	101.146	1.00	19.67	HIGL
ATOM	1215	CB	TYR	151	25.949	42.403	100.362	1.00	19.65	HIGL
ATOM	1216	CG	TYR	151	24.910	41.515	99.711	1.00	20.60	HIGL
ATOM	1217	CD1	TYR	151	24.183	41.962	98.610	1.00	20.83	HIGL
ATOM	1218	CE1	TYR	151	23.180	41.179	98.036	1.00	20.50	HIGL
ATOM	1219	CD2	TYR	151	24.609	40.249	100.228	1.00	20.51	HIGL
ATOM	1220	CE2	TYR	151	23.601	39.457	99.656	1.00	20.06	HIGL
ATOM	1221	CZ	TYR	151	22.894	39.933	98.559	1.00	20.06	HIGL
ATOM	1222	OH	TYR	151	21.904	39.171	97.972	1.00	19.92	HIGL
ATOM	1223	C	TYR	151	24.389	42.972	102.204	1.00	19.26	HIGL
ATOM	1224	O	TYR	151	23.176	43.114	102.113	1.00	18.33	HIGL
ATOM	1225	N	ASN	152	24.966	42.317	103.209	1.00	19.42	HIGL
ATOM	1226	CA	ASN	152	24.158	41.722	104.267	1.00	19.11	HIGL
ATOM	1227	CB	ASN	152	25.040	41.046	105.326	1.00	19.23	HIGL
ATOM	1228	CG	ASN	152	25.663	39.739	104.835	1.00	20.56	HIGL
ATOM	1229	OD1	ASN	152	25.221	39.154	103.839	1.00	19.15	HIGL
ATOM	1230	ND2	ASN	152	26.687	39.267	105.549	1.00	19.90	HIGL
ATOM	1231	C	ASN	152	23.265	42.756	104.937	1.00	18.86	HIGL
ATOM	1232	O	ASN	152	22.111	42.469	105.248	1.00	19.25	HIGL
ATOM	1233	N	ILE	153	23.792	43.958	105.154	1.00	18.55	HIGL
ATOM	1234	CA	ILE	153	23.024	45.020	105.804	1.00	18.75	HIGL

Fig. 2 cont.

65/174

ATOM	1235	CB	ILE	153	23.891	46.283	106.033	1.00	17.77	HIGL
ATOM	1236	CG2	ILE	153	23.053	47.395	106.623	1.00	16.52	HIGL
ATOM	1237	CG1	ILE	153	25.046	45.949	106.982	1.00	17.36	HIGL
ATOM	1238	CD1	ILE	153	26.068	47.050	107.128	1.00	16.15	HIGL
ATOM	1239	C	ILE	153	21.770	45.414	105.021	1.00	19.29	HIGL
ATOM	1240	O	ILE	153	20.653	45.369	105.557	1.00	18.88	HIGL
ATOM	1241	N	ALA	154	21.950	45.791	103.758	1.00	18.63	HIGL
ATOM	1242	CA	ALA	154	20.814	46.198	102.936	1.00	19.02	HIGL
ATOM	1243	CB	ALA	154	21.280	46.567	101.536	1.00	17.23	HIGL
ATOM	1244	C	ALA	154	19.828	45.043	102.880	1.00	19.18	HIGL
ATOM	1245	O	ALA	154	18.609	45.227	102.823	1.00	19.09	HIGL
ATOM	1246	N	ARG	155	20.393	43.846	102.908	1.00	19.15	HIGL
ATOM	1247	CA	ARG	155	19.646	42.602	102.864	1.00	18.74	HIGL
ATOM	1248	CB	ARG	155	20.661	41.461	102.775	1.00	18.99	HIGL
ATOM	1249	CG	ARG	155	20.110	40.111	102.485	1.00	19.95	HIGL
ATOM	1250	CD	ARG	155	19.495	39.997	101.104	1.00	20.00	HIGL
ATOM	1251	NE	ARG	155	18.768	38.740	101.065	1.00	21.33	HIGL
ATOM	1252	CZ	ARG	155	19.341	37.554	100.901	1.00	22.66	HIGL
ATOM	1253	NH1	ARG	155	20.655	37.462	100.728	1.00	22.62	HIGL
ATOM	1254	NH2	ARG	155	18.607	36.454	100.981	1.00	24.41	HIGL
ATOM	1255	C	ARG	155	18.798	42.509	104.142	1.00	18.62	HIGL
ATOM	1256	O	ARG	155	17.593	42.257	104.105	1.00	18.01	HIGL
ATOM	1257	N	LEU	156	19.432	42.748	105.280	1.00	18.71	HIGL
ATOM	1258	CA	LEU	156	18.725	42.688	106.548	1.00	17.91	HIGL
ATOM	1259	CB	LEU	156	19.720	42.796	107.707	1.00	16.34	HIGL
ATOM	1260	CG	LEU	156	20.507	41.507	107.927	1.00	16.27	HIGL
ATOM	1261	CD1	LEU	156	21.555	41.716	109.000	1.00	15.19	HIGL
ATOM	1262	CD2	LEU	156	19.547	40.384	108.310	1.00	15.70	HIGL
ATOM	1263	C	LEU	156	17.651	43.757	106.680	1.00	17.08	HIGL
ATOM	1264	O	LEU	156	16.531	43.472	107.097	1.00	18.08	HIGL
ATOM	1265	N	LEU	157	17.984	44.987	106.323	1.00	16.61	HIGL
ATOM	1266	CA	LEU	157	17.025	46.069	106.448	1.00	16.27	HIGL
ATOM	1267	CB	LEU	157	17.710	47.405	106.169	1.00	15.39	HIGL
ATOM	1268	CG	LEU	157	18.901	47.674	107.103	1.00	15.27	HIGL
ATOM	1269	CD1	LEU	157	19.582	48.989	106.730	1.00	14.68	HIGL
ATOM	1270	CD2	LEU	157	18.425	47.688	108.546	1.00	13.43	HIGL
ATOM	1271	C	LEU	157	15.819	45.870	105.543	1.00	16.79	HIGL
ATOM	1272	O	LEU	157	14.686	46.120	105.950	1.00	17.48	HIGL
ATOM	1273	N	HIS	158	16.050	45.403	104.321	1.00	17.58	HIGL
ATOM	1274	CA	HIS	158	14.944	45.174	103.401	1.00	17.25	HIGL
ATOM	1275	CB	HIS	158	15.439	44.552	102.099	1.00	17.36	HIGL
ATOM	1276	CG	HIS	158	14.335	44.187	101.159	1.00	18.88	HIGL
ATOM	1277	CD2	HIS	158	13.798	42.986	100.834	1.00	18.45	HIGL
ATOM	1278	ND1	HIS	158	13.587	45.133	100.484	1.00	19.56	HIGL
ATOM	1279	CE1	HIS	158	12.641	44.530	99.790	1.00	18.81	HIGL
ATOM	1280	NE2	HIS	158	12.746	43.225	99.985	1.00	19.02	HIGL
ATOM	1281	C	HIS	158	13.920	44.242	104.051	1.00	17.47	HIGL
ATOM	1282	O	HIS	158	12.723	44.531	104.066	1.00	16.46	HIGL
ATOM	1283	N	SER	159	14.402	43.127	104.592	1.00	17.53	HIGL
ATOM	1284	CA	SER	159	13.535	42.157	105.244	1.00	17.96	HIGL
ATOM	1285	CB	SER	159	14.353	40.973	105.753	1.00	18.70	HIGL
ATOM	1286	OG	SER	159	14.963	40.280	104.684	1.00	20.45	HIGL
ATOM	1287	C	SER	159	12.778	42.782	106.409	1.00	18.11	HIGL
ATOM	1288	O	SER	159	11.577	42.549	106.577	1.00	17.79	HIGL
ATOM	1289	N	ALA	160	13.483	43.573	107.214	1.00	17.67	HIGL
ATOM	1290	CA	ALA	160	12.871	44.231	108.363	1.00	17.44	HIGL
ATOM	1291	CB	ALA	160	13.929	44.922	109.187	1.00	16.81	HIGL
ATOM	1292	C	ALA	160	11.824	45.239	107.918	1.00	17.59	HIGL
ATOM	1293	O	ALA	160	10.737	45.322	108.492	1.00	17.41	HIGL
ATOM	1294	N	ALA	161	12.157	46.012	106.892	1.00	18.14	HIGL
ATOM	1295	CA	ALA	161	11.230	47.011	106.377	1.00	18.38	HIGL
ATOM	1296	CB	ALA	161	11.831	47.714	105.189	1.00	16.08	HIGL
ATOM	1297	C	ALA	161	9.931	46.337	105.974	1.00	19.43	HIGL
ATOM	1298	O	ALA	161	8.844	46.848	106.244	1.00	20.06	HIGL
ATOM	1299	N	TRP	162	10.045	45.176	105.335	1.00	19.98	HIGL

Fig. 2 cont.

66/174

ATOM	1300	CA	TRP	162	8.864	44.463	104.889	1.00	20.45	HIGL
ATOM	1301	CB	TRP	162	9.215	43.511	103.746	1.00	21.00	HIGL
ATOM	1302	CG	TRP	162	9.298	44.267	102.482	1.00	21.58	HIGL
ATOM	1303	CD2	TRP	162	8.222	44.516	101.575	1.00	21.96	HIGL
ATOM	1304	CE2	TRP	162	8.691	45.440	100.612	1.00	21.86	HIGL
ATOM	1305	CE3	TRP	162	6.902	44.056	101.487	1.00	22.03	HIGL
ATOM	1306	CD1	TRP	162	10.354	45.019	102.040	1.00	21.86	HIGL
ATOM	1307	NE1	TRP	162	9.995	45.729	100.919	1.00	21.88	HIGL
ATOM	1308	CZ2	TRP	162	7.884	45.913	99.572	1.00	21.45	HIGL
ATOM	1309	CZ3	TRP	162	6.096	44.530	100.448	1.00	22.27	HIGL
ATOM	1310	CH2	TRP	162	6.594	45.449	99.506	1.00	21.62	HIGL
ATOM	1311	C	TRP	162	8.108	43.746	105.982	1.00	20.46	HIGL
ATOM	1312	O	TRP	162	6.919	43.463	105.829	1.00	21.30	HIGL
ATOM	1313	N	GLY	163	8.783	43.453	107.085	1.00	19.69	HIGL
ATOM	1314	CA	GLY	163	8.089	42.816	108.182	1.00	19.99	HIGL
ATOM	1315	C	GLY	163	7.048	43.833	108.622	1.00	20.35	HIGL
ATOM	1316	O	GLY	163	5.954	43.491	109.075	1.00	20.66	HIGL
ATOM	1317	N	VAL	164	7.398	45.106	108.469	1.00	19.87	HIGL
ATOM	1318	CA	VAL	164	6.504	46.194	108.832	1.00	18.68	HIGL
ATOM	1319	CB	VAL	164	7.266	47.534	108.946	1.00	18.24	HIGL
ATOM	1320	CG1	VAL	164	6.305	48.650	109.336	1.00	17.70	HIGL
ATOM	1321	CG2	VAL	164	8.391	47.409	109.959	1.00	17.30	HIGL
ATOM	1322	C	VAL	164	5.447	46.336	107.748	1.00	18.61	HIGL
ATOM	1323	O	VAL	164	4.254	46.415	108.027	1.00	18.31	HIGL
ATOM	1324	N	LYS	165	5.891	46.356	106.502	1.00	18.63	HIGL
ATOM	1325	CA	LYS	165	4.965	46.516	105.403	1.00	19.93	HIGL
ATOM	1326	CB	LYS	165	5.728	46.615	104.087	1.00	19.36	HIGL
ATOM	1327	CG	LYS	165	6.589	47.869	103.981	1.00	18.36	HIGL
ATOM	1328	CD	LYS	165	7.335	47.923	102.644	1.00	18.25	HIGL
ATOM	1329	CE	LYS	165	8.175	49.182	102.534	1.00	17.76	HIGL
ATOM	1330	NZ	LYS	165	7.317	50.401	102.629	1.00	18.31	HIGL
ATOM	1331	C	LYS	165	3.904	45.428	105.325	1.00	20.82	HIGL
ATOM	1332	O	LYS	165	2.746	45.727	105.049	1.00	21.60	HIGL
ATOM	1333	N	ASP	166	4.283	44.179	105.581	1.00	21.39	HIGL
ATOM	1334	CA	ASP	166	3.327	43.073	105.522	1.00	22.03	HIGL
ATOM	1335	CB	ASP	166	4.039	41.749	105.219	1.00	22.56	HIGL
ATOM	1336	CG	ASP	166	4.642	41.702	103.833	1.00	23.22	HIGL
ATOM	1337	OD1	ASP	166	4.195	42.463	102.951	1.00	23.72	HIGL
ATOM	1338	OD2	ASP	166	5.560	40.879	103.623	1.00	23.83	HIGL
ATOM	1339	C	ASP	166	2.481	42.860	106.782	1.00	22.48	HIGL
ATOM	1340	O	ASP	166	1.724	41.896	106.852	1.00	22.92	HIGL
ATOM	1341	N	SER	167	2.596	43.732	107.777	1.00	22.71	HIGL
ATOM	1342	CA	SER	167	1.825	43.554	109.006	1.00	22.64	HIGL
ATOM	1343	CB	SER	167	2.519	44.259	110.169	1.00	22.61	HIGL
ATOM	1344	OG	SER	167	2.442	45.667	110.023	1.00	23.18	HIGL
ATOM	1345	C	SER	167	0.396	44.081	108.886	1.00	23.16	HIGL
ATOM	1346	O	SER	167	0.040	44.722	107.903	1.00	22.85	HIGL
ATOM	1347	N	ARG	168	-0.418	43.798	109.898	1.00	23.80	HIGL
ATOM	1348	CA	ARG	168	-1.805	44.250	109.933	1.00	23.78	HIGL
ATOM	1349	CB	ARG	168	-2.601	43.465	110.978	1.00	23.09	HIGL
ATOM	1350	CG	ARG	168	-3.597	42.463	110.420	1.00	22.15	HIGL
ATOM	1351	CD	ARG	168	-3.088	41.049	110.571	1.00	21.65	HIGL
ATOM	1352	NE	ARG	168	-2.910	40.664	111.971	1.00	18.91	HIGL
ATOM	1353	CZ	ARG	168	-2.272	39.564	112.348	1.00	18.78	HIGL
ATOM	1354	NH1	ARG	168	-1.763	38.753	111.430	1.00	18.16	HIGL
ATOM	1355	NH2	ARG	168	-2.127	39.278	113.633	1.00	19.17	HIGL
ATOM	1356	C	ARG	168	-1.890	45.734	110.284	1.00	24.65	HIGL
ATOM	1357	O	ARG	168	-2.980	46.299	110.348	1.00	25.72	HIGL
ATOM	1358	N	LEU	169	-0.751	46.366	110.534	1.00	24.93	HIGL
ATOM	1359	CA	LEU	169	-0.767	47.779	110.873	1.00	25.57	HIGL
ATOM	1360	CB	LEU	169	0.642	48.300	111.135	1.00	24.39	HIGL
ATOM	1361	CG	LEU	169	1.239	47.981	112.501	1.00	23.91	HIGL
ATOM	1362	CD1	LEU	169	2.643	48.570	112.579	1.00	23.28	HIGL
ATOM	1363	CD2	LEU	169	0.350	48.545	113.595	1.00	21.07	HIGL
ATOM	1364	C	LEU	169	-1.395	48.596	109.768	1.00	26.78	HIGL

Fig. 2 cont.

67/174

ATOM	1365	O	LEU	169	-1.086	48.421	108.591	1.00	26.61	HIGL
ATOM	1366	N	ASN	170	-2.292	49.485	110.160	1.00	28.98	HIGL
ATOM	1367	CA	ASN	170	-2.962	50.356	109.216	1.00	31.16	HIGL
ATOM	1368	CB	ASN	170	-4.126	49.638	108.536	1.00	34.31	HIGL
ATOM	1369	CG	ASN	170	-4.532	50.301	107.223	1.00	37.73	HIGL
ATOM	1370	OD1	ASN	170	-5.637	50.087	106.717	1.00	39.55	HIGL
ATOM	1371	ND2	ASN	170	-3.628	51.098	106.657	1.00	38.83	HIGL
ATOM	1372	C	ASN	170	-3.482	51.560	109.989	1.00	31.18	HIGL
ATOM	1373	O	ASN	170	-4.227	51.411	110.965	1.00	31.87	HIGL
ATOM	1374	N	PRO	171	-3.044	52.767	109.599	1.00	29.94	HIGL
ATOM	1375	CD	PRO	171	-3.373	54.060	110.227	1.00	29.80	HIGL
ATOM	1376	CA	PRO	171	-2.101	52.949	108.492	1.00	28.18	HIGL
ATOM	1377	CB	PRO	171	-2.094	54.459	108.295	1.00	28.38	HIGL
ATOM	1378	CG	PRO	171	-2.269	54.960	109.698	1.00	29.83	HIGL
ATOM	1379	C	PRO	171	-0.728	52.413	108.889	1.00	26.71	HIGL
ATOM	1380	O	PRO	171	-0.472	52.183	110.068	1.00	25.16	HIGL
ATOM	1381	N	LYS	172	0.139	52.204	107.900	1.00	25.19	HIGL
ATOM	1382	CA	LYS	172	1.482	51.709	108.155	1.00	24.35	HIGL
ATOM	1383	CB	LYS	172	2.119	51.187	106.867	1.00	25.60	HIGL
ATOM	1384	CG	LYS	172	1.274	50.201	106.093	1.00	27.94	HIGL
ATOM	1385	CD	LYS	172	1.253	48.826	106.725	1.00	29.37	HIGL
ATOM	1386	CE	LYS	172	0.451	47.875	105.848	1.00	30.03	HIGL
ATOM	1387	NZ	LYS	172	0.492	46.469	106.329	1.00	30.93	HIGL
ATOM	1388	C	LYS	172	2.332	52.858	108.686	1.00	22.94	HIGL
ATOM	1389	O	LYS	172	2.212	53.992	108.220	1.00	22.83	HIGL
ATOM	1390	N	PRO	173	3.200	52.580	109.671	1.00	21.18	HIGL
ATOM	1391	CD	PRO	173	3.396	51.290	110.354	1.00	21.36	HIGL
ATOM	1392	CA	PRO	173	4.069	53.599	110.254	1.00	20.28	HIGL
ATOM	1393	CB	PRO	173	4.595	52.915	111.508	1.00	20.26	HIGL
ATOM	1394	CG	PRO	173	4.718	51.502	111.059	1.00	20.58	HIGL
ATOM	1395	C	PRO	173	5.197	53.947	109.297	1.00	19.51	HIGL
ATOM	1396	O	PRO	173	5.525	53.172	108.407	1.00	19.40	HIGL
ATOM	1397	N	LYS	174	5.778	55.123	109.482	1.00	18.84	HIGL
ATOM	1398	CA	LYS	174	6.887	55.548	108.655	1.00	18.05	HIGL
ATOM	1399	CB	LYS	174	7.168	57.032	108.875	1.00	18.15	HIGL
ATOM	1400	CG	LYS	174	5.984	57.905	108.527	1.00	18.80	HIGL
ATOM	1401	CD	LYS	174	6.308	59.380	108.602	1.00	19.52	HIGL
ATOM	1402	CE	LYS	174	5.140	60.200	108.085	1.00	18.38	HIGL
ATOM	1403	NZ	LYS	174	5.521	61.622	107.893	1.00	19.70	HIGL
ATOM	1404	C	LYS	174	8.073	54.712	109.097	1.00	17.68	HIGL
ATOM	1405	O	LYS	174	8.348	54.586	110.288	1.00	18.33	HIGL
ATOM	1406	N	ILE	175	8.764	54.119	108.139	1.00	17.03	HIGL
ATOM	1407	CA	ILE	175	9.909	53.291	108.461	1.00	16.37	HIGL
ATOM	1408	CB	ILE	175	10.071	52.178	107.420	1.00	15.88	HIGL
ATOM	1409	CG2	ILE	175	11.276	51.317	107.767	1.00	14.85	HIGL
ATOM	1410	CG1	ILE	175	8.785	51.342	107.387	1.00	14.92	HIGL
ATOM	1411	CD1	ILE	175	8.694	50.358	106.232	1.00	16.47	HIGL
ATOM	1412	C	ILE	175	11.142	54.176	108.517	1.00	15.73	HIGL
ATOM	1413	O	ILE	175	11.417	54.933	107.588	1.00	15.78	HIGL
ATOM	1414	N	MET	176	11.874	54.075	109.620	1.00	14.73	HIGL
ATOM	1415	CA	MET	176	13.054	54.896	109.836	1.00	14.35	HIGL
ATOM	1416	CB	MET	176	12.830	55.786	111.070	1.00	13.52	HIGL
ATOM	1417	CG	MET	176	14.060	56.557	111.518	1.00	13.16	HIGL
ATOM	1418	SD	MET	176	13.928	57.167	113.201	1.00	14.72	HIGL
ATOM	1419	CE	MET	176	12.695	58.477	112.999	1.00	14.08	HIGL
ATOM	1420	C	MET	176	14.358	54.122	110.024	1.00	14.18	HIGL
ATOM	1421	O	MET	176	14.376	53.040	110.603	1.00	14.19	HIGL
ATOM	1422	N	VAL	177	15.444	54.693	109.511	1.00	14.60	HIGL
ATOM	1423	CA	VAL	177	16.777	54.123	109.664	1.00	13.89	HIGL
ATOM	1424	CB	VAL	177	17.532	54.024	108.319	1.00	13.58	HIGL
ATOM	1425	CG1	VAL	177	19.004	53.680	108.573	1.00	12.32	HIGL
ATOM	1426	CG2	VAL	177	16.892	52.940	107.454	1.00	12.15	HIGL
ATOM	1427	C	VAL	177	17.461	55.113	110.597	1.00	13.92	HIGL
ATOM	1428	O	VAL	177	17.503	56.314	110.326	1.00	13.57	HIGL
ATOM	1429	N	HIS	178	17.966	54.595	111.710	1.00	14.28	HIGL

Fig. 2 cont.

68/174

ATOM	1430	CA	HIS	178	18.591	55.407	112.743	1.00	14.37	HIGL
ATOM	1431	CB	HIS	178	17.910	55.083	114.083	1.00	14.38	HIGL
ATOM	1432	CG	HIS	178	18.522	55.762	115.268	1.00	14.85	HIGL
ATOM	1433	CD2	HIS	178	18.456	55.471	116.589	1.00	14.94	HIGL
ATOM	1434	ND1	HIS	178	19.287	56.903	115.163	1.00	15.06	HIGL
ATOM	1435	CE1	HIS	178	19.670	57.285	116.369	1.00	14.39	HIGL
ATOM	1436	NE2	HIS	178	19.179	56.434	117.251	1.00	15.19	HIGL
ATOM	1437	C	HIS	178	20.102	55.235	112.850	1.00	14.74	HIGL
ATOM	1438	O	HIS	178	20.605	54.132	113.072	1.00	14.60	HIGL
ATOM	1439	N	LEU	179	20.812	56.346	112.685	1.00	14.68	HIGL
ATOM	1440	CA	LEU	179	22.269	56.381	112.769	1.00	14.88	HIGL
ATOM	1441	CB	LEU	179	22.866	56.817	111.430	1.00	14.85	HIGL
ATOM	1442	CG	LEU	179	23.217	55.794	110.349	1.00	15.01	HIGL
ATOM	1443	CD1	LEU	179	22.120	54.786	110.177	1.00	15.16	HIGL
ATOM	1444	CD2	LEU	179	23.476	56.536	109.049	1.00	14.52	HIGL
ATOM	1445	C	LEU	179	22.632	57.406	113.830	1.00	14.77	HIGL
ATOM	1446	O	LEU	179	21.867	58.336	114.070	1.00	16.15	HIGL
ATOM	1447	N	ASP	180	23.736	57.244	114.468	1.00	14.56	HIGL
ATOM	1448	CA	ASP	180	24.217	58.200	115.483	1.00	15.13	HIGL
ATOM	1449	CB	ASP	180	25.040	57.491	116.576	1.00	15.21	HIGL
ATOM	1450	CG	ASP	180	26.496	57.238	116.171	1.00	16.64	HIGL
ATOM	1451	OD1	ASP	180	26.744	56.712	115.060	1.00	15.02	HIGL
ATOM	1452	OD2	ASP	180	27.393	57.560	116.987	1.00	16.16	HIGL
ATOM	1453	C	ASP	180	25.039	59.279	114.776	1.00	15.95	HIGL
ATOM	1454	O	ASP	180	25.185	59.233	113.555	1.00	17.25	HIGL
ATOM	1455	N	ASN	181	25.556	60.249	115.525	1.00	15.91	HIGL
ATOM	1456	CA	ASN	181	26.362	61.334	114.960	1.00	15.67	HIGL
ATOM	1457	CB	ASN	181	27.754	60.824	114.594	1.00	16.57	HIGL
ATOM	1458	CG	ASN	181	28.573	60.449	115.807	1.00	17.66	HIGL
ATOM	1459	OD1	ASN	181	28.418	61.031	116.881	1.00	19.18	HIGL
ATOM	1460	ND2	ASN	181	29.464	59.487	115.641	1.00	18.44	HIGL
ATOM	1461	C	ASN	181	25.763	62.034	113.742	1.00	15.63	HIGL
ATOM	1462	O	ASN	181	26.433	62.200	112.731	1.00	15.55	HIGL
ATOM	1463	N	GLY	182	24.508	62.455	113.847	1.00	15.79	HIGL
ATOM	1464	CA	GLY	182	23.853	63.129	112.744	1.00	15.12	HIGL
ATOM	1465	C	GLY	182	24.575	64.373	112.287	1.00	15.79	HIGL
ATOM	1466	O	GLY	182	24.331	64.857	111.184	1.00	16.16	HIGL
ATOM	1467	N	TRP	183	25.459	64.902	113.130	1.00	16.94	HIGL
ATOM	1468	CA	TRP	183	26.227	66.100	112.784	1.00	16.80	HIGL
ATOM	1469	CB	TRP	183	26.854	66.746	114.034	1.00	16.19	HIGL
ATOM	1470	CG	TRP	183	27.735	65.829	114.837	1.00	14.99	HIGL
ATOM	1471	CD2	TRP	183	29.108	65.506	114.577	1.00	14.85	HIGL
ATOM	1472	CE2	TRP	183	29.505	64.558	115.547	1.00	14.72	HIGL
ATOM	1473	CE3	TRP	183	30.041	65.922	113.616	1.00	15.26	HIGL
ATOM	1474	CD1	TRP	183	27.369	65.091	115.919	1.00	15.04	HIGL
ATOM	1475	NE1	TRP	183	28.424	64.324	116.353	1.00	14.56	HIGL
ATOM	1476	C22	TRP	183	30.798	64.015	115.586	1.00	13.96	HIGL
ATOM	1477	CZ3	TRP	183	31.332	65.379	113.654	1.00	14.45	HIGL
ATOM	1478	CH2	TRP	183	31.693	64.436	114.634	1.00	13.99	HIGL
ATOM	1479	C	TRP	183	27.333	65.755	111.797	1.00	17.18	HIGL
ATOM	1480	O	TRP	183	27.780	66.606	111.040	1.00	18.90	HIGL
ATOM	1481	N	ASN	184	27.780	64.508	111.807	1.00	17.37	HIGL
ATOM	1482	CA	ASN	184	28.838	64.087	110.901	1.00	18.52	HIGL
ATOM	1483	CB	ASN	184	29.623	62.936	111.514	1.00	18.43	HIGL
ATOM	1484	CG	ASN	184	30.892	62.651	110.760	1.00	18.15	HIGL
ATOM	1485	OD1	ASN	184	30.904	62.652	109.528	1.00	17.65	HIGL
ATOM	1486	ND2	ASN	184	31.972	62.403	111.490	1.00	16.66	HIGL
ATOM	1487	C	ASN	184	28.265	63.647	109.551	1.00	19.20	HIGL
ATOM	1488	O	ASN	184	27.800	62.515	109.406	1.00	19.59	HIGL
ATOM	1489	N	TRP	185	28.318	64.536	108.563	1.00	18.87	HIGL
ATOM	1490	CA	TRP	185	27.780	64.239	107.246	1.00	18.50	HIGL
ATOM	1491	CB	TRP	185	27.752	65.517	106.404	1.00	19.66	HIGL
ATOM	1492	CG	TRP	185	27.658	65.269	104.923	1.00	20.74	HIGL
ATOM	1493	CD2	TRP	185	26.584	64.623	104.224	1.00	21.65	HIGL
ATOM	1494	CE2	TRP	185	26.952	64.564	102.857	1.00	21.97	HIGL

Fig. 2 cont.

69/174

ATOM	1495	CE3	TRP	185	25.349	64.085	104.618	1.00	21.22	HIGL
ATOM	1496	CD1	TRP	185	28.601	65.570	103.982	1.00	20.45	HIGL
ATOM	1497	NE1	TRP	185	28.184	65.151	102.740	1.00	21.70	HIGL
ATOM	1498	CZ2	TRP	185	26.127	63.985	101.880	1.00	21.82	HIGL
ATOM	1499	CZ3	TRP	185	24.526	63.509	103.645	1.00	21.31	HIGL
ATOM	1500	CH2	TRP	185	24.921	63.465	102.292	1.00	21.28	HIGL
ATOM	1501	C	TRP	185	28.510	63.126	106.489	1.00	18.87	HIGL
ATOM	1502	O	TRP	185	27.873	62.328	105.796	1.00	18.21	HIGL
ATOM	1503	N	ASP	186	29.835	63.074	106.606	1.00	18.26	HIGL
ATOM	1504	CA	ASP	186	30.595	62.042	105.918	1.00	18.41	HIGL
ATOM	1505	CB	ASP	186	32.094	62.185	106.181	1.00	19.07	HIGL
ATOM	1506	CG	ASP	186	32.662	63.492	105.644	1.00	19.86	HIGL
ATOM	1507	OD1	ASP	186	32.235	63.922	104.546	1.00	18.31	HIGL
ATOM	1508	OD2	ASP	186	33.539	64.082	106.321	1.00	20.67	HIGL
ATOM	1509	C	ASP	186	30.127	60.669	106.375	1.00	18.79	HIGL
ATOM	1510	O	ASP	186	30.057	59.738	105.569	1.00	19.44	HIGL
ATOM	1511	N	THR	187	29.804	60.541	107.662	1.00	18.54	HIGL
ATOM	1512	CA	THR	187	29.326	59.267	108.185	1.00	18.36	HIGL
ATOM	1513	CB	THR	187	29.144	59.303	109.717	1.00	18.81	HIGL
ATOM	1514	OG1	THR	187	30.334	59.779	110.359	1.00	17.18	HIGL
ATOM	1515	CG2	THR	187	28.841	57.898	110.229	1.00	17.29	HIGL
ATOM	1516	C	THR	187	27.955	58.970	107.554	1.00	18.81	HIGL
ATOM	1517	O	THR	187	27.749	57.924	106.953	1.00	18.82	HIGL
ATOM	1518	N	GLN	188	27.028	59.912	107.690	1.00	18.92	HIGL
ATOM	1519	CA	GLN	188	25.678	59.756	107.123	1.00	18.70	HIGL
ATOM	1520	CB	GLN	188	24.868	61.025	107.278	1.00	18.92	HIGL
ATOM	1521	CG	GLN	188	24.691	61.548	108.719	1.00	20.75	HIGL
ATOM	1522	CD	GLN	188	24.217	60.494	109.715	1.00	21.45	HIGL
ATOM	1523	OE1	GLN	188	23.340	59.658	109.425	1.00	21.55	HIGL
ATOM	1524	NE2	GLN	188	24.775	60.558	110.916	1.00	20.88	HIGL
ATOM	1525	C	GLN	188	25.693	59.419	105.628	1.00	18.27	HIGL
ATOM	1526	O	GLN	188	24.854	58.643	105.144	1.00	19.06	HIGL
ATOM	1527	N	ASN	189	26.652	60.019	104.912	1.00	18.01	HIGL
ATOM	1528	CA	ASN	189	26.837	59.855	103.466	1.00	17.83	HIGL
ATOM	1529	CB	ASN	189	27.713	61.007	102.897	1.00	18.12	HIGL
ATOM	1530	CG	ASN	189	27.816	60.975	101.367	1.00	18.97	HIGL
ATOM	1531	OD1	ASN	189	27.022	60.302	100.708	1.00	18.06	HIGL
ATOM	1532	ND2	ASN	189	28.776	61.718	100.800	1.00	19.12	HIGL
ATOM	1533	C	ASN	189	27.460	58.493	103.165	1.00	17.73	HIGL
ATOM	1534	O	ASN	189	26.935	57.760	102.331	1.00	17.69	HIGL
ATOM	1535	N	TRP	190	28.583	58.180	103.812	1.00	17.17	HIGL
ATOM	1536	CA	TRP	190	29.272	56.895	103.656	1.00	16.53	HIGL
ATOM	1537	CB	TRP	190	30.409	56.855	104.679	1.00	16.92	HIGL
ATOM	1538	CG	TRP	190	30.943	55.516	105.033	1.00	17.78	HIGL
ATOM	1539	CD2	TRP	190	30.714	54.794	106.253	1.00	17.06	HIGL
ATOM	1540	CE2	TRP	190	31.490	53.620	106.192	1.00	18.29	HIGL
ATOM	1541	CE3	TRP	190	29.931	55.028	107.392	1.00	17.68	HIGL
ATOM	1542	CD1	TRP	190	31.811	54.770	104.303	1.00	18.04	HIGL
ATOM	1543	NE1	TRP	190	32.150	53.630	104.991	1.00	18.09	HIGL
ATOM	1544	CZ2	TRP	190	31.511	52.675	107.230	1.00	18.43	HIGL
ATOM	1545	CZ3	TRP	190	29.951	54.083	108.431	1.00	18.02	HIGL
ATOM	1546	CH2	TRP	190	30.738	52.925	108.336	1.00	17.37	HIGL
ATOM	1547	C	TRP	190	28.307	55.715	103.874	1.00	15.60	HIGL
ATOM	1548	O	TRP	190	28.193	54.800	103.053	1.00	16.16	HIGL
ATOM	1549	N	TRP	191	27.609	55.744	104.997	1.00	14.48	HIGL
ATOM	1550	CA	TRP	191	26.674	54.686	105.327	1.00	14.21	HIGL
ATOM	1551	CB	TRP	191	26.028	54.956	106.681	1.00	12.41	HIGL
ATOM	1552	CG	TRP	191	25.437	53.729	107.273	1.00	11.51	HIGL
ATOM	1553	CD2	TRP	191	24.101	53.250	107.097	1.00	10.28	HIGL
ATOM	1554	CE2	TRP	191	23.990	52.044	107.827	1.00	10.64	HIGL
ATOM	1555	CE3	TRP	191	22.986	53.720	106.393	1.00	7.88	HIGL
ATOM	1556	CD1	TRP	191	26.068	52.820	108.074	1.00	12.10	HIGL
ATOM	1557	NE1	TRP	191	25.208	51.805	108.413	1.00	10.86	HIGL
ATOM	1558	CZ2	TRP	191	22.808	51.304	107.876	1.00	9.13	HIGL
ATOM	1559	CZ3	TRP	191	21.818	52.988	106.440	1.00	8.78	HIGL

Fig. 2 cont.

70/174

ATOM	1560	CH2	TRP	191	21.735	51.790	107.178	1.00	9.52	HIGL
ATOM	1561	C	TRP	191	25.566	54.471	104.292	1.00	14.99	HIGL
ATOM	1562	O	TRP	191	25.485	53.409	103.664	1.00	14.62	HIGL
ATOM	1563	N	TYR	192	24.703	55.468	104.121	1.00	15.56	HIGL
ATOM	1564	CA	TYR	192	23.595	55.341	103.178	1.00	16.00	HIGL
ATOM	1565	CB	TYR	192	22.739	56.615	103.195	1.00	15.03	HIGL
ATOM	1566	CG	TYR	192	21.859	56.737	104.428	1.00	14.42	HIGL
ATOM	1567	CD1	TYR	192	20.759	55.886	104.617	1.00	14.00	HIGL
ATOM	1568	CE1	TYR	192	19.954	55.987	105.746	1.00	13.21	HIGL
ATOM	1569	CD2	TYR	192	22.128	57.691	105.408	1.00	13.33	HIGL
ATOM	1570	CE2	TYR	192	21.332	57.804	106.544	1.00	13.35	HIGL
ATOM	1571	C2	TYR	192	20.244	56.950	106.709	1.00	13.89	HIGL
ATOM	1572	OH	TYR	192	19.442	57.073	107.826	1.00	12.40	HIGL
ATOM	1573	C	TYR	192	24.052	55.015	101.760	1.00	17.04	HIGL
ATOM	1574	O	TYR	192	23.433	54.199	101.071	1.00	17.52	HIGL
ATOM	1575	N	THR	193	25.137	55.643	101.325	1.00	17.90	HIGL
ATOM	1576	CA	THR	193	25.654	55.388	99.993	1.00	18.57	HIGL
ATOM	1577	CB	THR	193	26.949	56.186	99.738	1.00	19.70	HIGL
ATOM	1578	OG1	THR	193	26.634	57.582	99.645	1.00	20.25	HIGL
ATOM	1579	CG2	THR	193	27.629	55.716	98.441	1.00	17.66	HIGL
ATOM	1580	C	THR	193	25.950	53.897	99.842	1.00	18.55	HIGL
ATOM	1581	O	THR	193	25.442	53.230	98.937	1.00	18.73	HIGL
ATOM	1582	N	ASN	194	26.772	53.377	100.742	1.00	17.82	HIGL
ATOM	1583	CA	ASN	194	27.127	51.972	100.693	1.00	18.02	HIGL
ATOM	1584	CB	ASN	194	28.166	51.663	101.762	1.00	17.18	HIGL
ATOM	1585	CG	ASN	194	29.546	52.148	101.381	1.00	16.79	HIGL
ATOM	1586	OD1	ASN	194	30.135	51.668	100.411	1.00	17.28	HIGL
ATOM	1587	ND2	ASN	194	30.073	53.102	102.137	1.00	16.49	HIGL
ATOM	1588	C	ASN	194	25.934	51.031	100.830	1.00	18.35	HIGL
ATOM	1589	O	ASN	194	25.860	50.029	100.123	1.00	20.21	HIGL
ATOM	1590	N	VAL	195	25.003	51.345	101.724	1.00	17.31	HIGL
ATOM	1591	CA	VAL	195	23.838	50.495	101.908	1.00	17.12	HIGL
ATOM	1592	CB	VAL	195	23.052	50.887	103.185	1.00	17.17	HIGL
ATOM	1593	CG1	VAL	195	21.789	50.062	103.290	1.00	16.39	HIGL
ATOM	1594	CG2	VAL	195	23.906	50.675	104.411	1.00	16.35	HIGL
ATOM	1595	C	VAL	195	22.882	50.550	100.711	1.00	17.84	HIGL
ATOM	1596	O	VAL	195	22.414	49.514	100.223	1.00	17.57	HIGL
ATOM	1597	N	LEU	196	22.591	51.755	100.234	1.00	17.80	HIGL
ATOM	1598	CA	LEU	196	21.672	51.906	99.114	1.00	18.71	HIGL
ATOM	1599	CB	LEU	196	21.164	53.346	99.049	1.00	19.05	HIGL
ATOM	1600	CG	LEU	196	20.389	53.814	100.284	1.00	19.84	HIGL
ATOM	1601	CD1	LEU	196	19.935	55.255	100.071	1.00	19.18	HIGL
ATOM	1602	CD2	LEU	196	19.188	52.901	100.532	1.00	18.91	HIGL
ATOM	1603	C	LEU	196	22.219	51.490	97.745	1.00	18.86	HIGL
ATOM	1604	O	LEU	196	21.446	51.326	96.798	1.00	18.34	HIGL
ATOM	1605	N	SER	197	23.537	51.316	97.631	1.00	18.55	HIGL
ATOM	1606	CA	SER	197	24.126	50.913	96.355	1.00	18.26	HIGL
ATOM	1607	CB	SER	197	25.561	51.426	96.232	1.00	17.73	HIGL
ATOM	1608	OG	SER	197	26.436	50.722	97.091	1.00	18.32	HIGL
ATOM	1609	C	SER	197	24.113	49.397	96.184	1.00	18.38	HIGL
ATOM	1610	O	SER	197	24.322	48.884	95.088	1.00	18.24	HIGL
ATOM	1611	N	GLN	198	23.859	48.677	97.269	1.00	18.80	HIGL
ATOM	1612	CA	GLN	198	23.822	47.223	97.212	1.00	18.22	HIGL
ATOM	1613	CB	GLN	198	23.686	46.653	98.620	1.00	19.28	HIGL
ATOM	1614	CG	GLN	198	24.836	46.994	99.518	1.00	19.81	HIGL
ATOM	1615	CD	GLN	198	26.161	46.734	98.847	1.00	21.32	HIGL
ATOM	1616	OE1	GLN	198	26.353	45.693	98.210	1.00	21.68	HIGL
ATOM	1617	NE2	GLN	198	27.091	47.679	98.984	1.00	21.99	HIGL
ATOM	1618	C	GLN	198	22.682	46.707	96.340	1.00	17.65	HIGL
ATOM	1619	O	GLN	198	22.877	45.821	95.514	1.00	17.50	HIGL
ATOM	1620	N	GLY	199	21.486	47.253	96.536	1.00	17.03	HIGL
ATOM	1621	CA	GLY	199	20.347	46.821	95.745	1.00	15.62	HIGL
ATOM	1622	C	GLY	199	19.181	46.278	96.560	1.00	15.72	HIGL
ATOM	1623	O	GLY	199	18.045	46.710	96.364	1.00	15.60	HIGL
ATOM	1624	N	PRO	200	19.422	45.336	97.488	1.00	15.34	HIGL

Fig. 2 cont.

71/174

ATOM	1625	CD	PRO	200	20.704	44.672	97.783	1.00	14.88	HIGL
ATOM	1626	CA	PRO	200	18.350	44.764	98.306	1.00	14.92	HIGL
ATOM	1627	CB	PRO	200	19.104	43.814	99.225	1.00	16.05	HIGL
ATOM	1628	CG	PRO	200	20.245	43.367	98.366	1.00	14.92	HIGL
ATOM	1629	C	PRO	200	17.518	45.794	99.076	1.00	15.90	HIGL
ATOM	1630	O	PRO	200	16.288	45.699	99.112	1.00	14.94	HIGL
ATOM	1631	N	PHE	201	18.178	46.771	99.698	1.00	16.66	HIGL
ATOM	1632	CA	PHE	201	17.457	47.806	100.439	1.00	17.91	HIGL
ATOM	1633	CB	PHE	201	18.296	48.317	101.607	1.00	17.39	HIGL
ATOM	1634	CG	PHE	201	17.523	49.154	102.585	1.00	16.03	HIGL
ATOM	1635	CD1	PHE	201	16.320	48.696	103.108	1.00	15.39	HIGL
ATOM	1636	CD2	PHE	201	18.019	50.376	103.019	1.00	16.33	HIGL
ATOM	1637	CE1	PHE	201	15.627	49.436	104.049	1.00	16.04	HIGL
ATOM	1638	CE2	PHE	201	17.331	51.130	103.967	1.00	16.47	HIGL
ATOM	1639	CZ	PHE	201	16.133	50.658	104.484	1.00	16.02	HIGL
ATOM	1640	C	PHE	201	17.160	48.947	99.481	1.00	19.32	HIGL
ATOM	1641	O	PHE	201	18.052	49.707	99.113	1.00	19.83	HIGL
ATOM	1642	N	GLU	202	15.899	49.066	99.088	1.00	20.88	HIGL
ATOM	1643	CA	GLU	202	15.492	50.079	98.130	1.00	22.59	HIGL
ATOM	1644	CB	GLU	202	14.381	49.527	97.248	1.00	25.23	HIGL
ATOM	1645	CG	GLU	202	14.646	48.127	96.733	1.00	29.70	HIGL
ATOM	1646	CD	GLU	202	13.649	47.709	95.670	1.00	31.92	HIGL
ATOM	1647	OE1	GLU	202	13.642	48.342	94.588	1.00	33.85	HIGL
ATOM	1648	OE2	GLU	202	12.876	46.758	95.916	1.00	32.65	HIGL
ATOM	1649	C	GLU	202	15.033	51.394	98.724	1.00	22.89	HIGL
ATOM	1650	O	GLU	202	14.660	51.473	99.892	1.00	23.53	HIGL
ATOM	1651	N	MET	203	15.046	52.426	97.891	1.00	23.12	HIGL
ATOM	1652	CA	MET	203	14.624	53.748	98.309	1.00	23.40	HIGL
ATOM	1653	CB	MET	203	14.768	54.734	97.153	1.00	24.47	HIGL
ATOM	1654	CG	MET	203	16.202	55.007	96.767	1.00	27.52	HIGL
ATOM	1655	SD	MET	203	17.161	55.583	98.175	1.00	30.04	HIGL
ATOM	1656	CE	MET	203	16.411	57.199	98.411	1.00	29.30	HIGL
ATOM	1657	C	MET	203	13.185	53.748	98.808	1.00	22.78	HIGL
ATOM	1658	O	MET	203	12.835	54.522	99.696	1.00	22.95	HIGL
ATOM	1659	N	SER	204	12.352	52.878	98.251	1.00	21.87	HIGL
ATOM	1660	CA	SER	204	10.956	52.823	98.668	1.00	21.55	HIGL
ATOM	1661	CB	SER	204	10.077	52.307	97.521	1.00	21.02	HIGL
ATOM	1662	OG	SER	204	10.458	51.006	97.107	1.00	20.98	HIGL
ATOM	1663	C	SER	204	10.741	51.961	99.913	1.00	21.58	HIGL
ATOM	1664	O	SER	204	9.610	51.822	100.379	1.00	21.09	HIGL
ATOM	1665	N	ASP	205	11.821	51.388	100.448	1.00	20.89	HIGL
ATOM	1666	CA	ASP	205	11.723	50.545	101.640	1.00	20.32	HIGL
ATOM	1667	CB	ASP	205	12.882	49.539	101.716	1.00	20.48	HIGL
ATOM	1668	CG	ASP	205	12.750	48.411	100.710	1.00	19.95	HIGL
ATOM	1669	OD1	ASP	205	11.607	47.992	100.424	1.00	20.12	HIGL
ATOM	1670	OD2	ASP	205	13.792	47.933	100.220	1.00	19.93	HIGL
ATOM	1671	C	ASP	205	11.681	51.325	102.944	1.00	19.69	HIGL
ATOM	1672	O	ASP	205	11.284	50.780	103.971	1.00	19.83	HIGL
ATOM	1673	N	PHE	206	12.109	52.584	102.927	1.00	19.32	HIGL
ATOM	1674	CA	PHE	206	12.062	53.377	104.149	1.00	19.43	HIGL
ATOM	1675	CB	PHE	206	13.413	53.376	104.877	1.00	19.75	HIGL
ATOM	1676	CG	PHE	206	14.492	54.155	104.194	1.00	20.11	HIGL
ATOM	1677	CD1	PHE	206	14.975	53.768	102.951	1.00	20.98	HIGL
ATOM	1678	CD2	PHE	206	15.090	55.233	104.839	1.00	19.93	HIGL
ATOM	1679	CE1	PHE	206	16.048	54.442	102.364	1.00	20.58	HIGL
ATOM	1680	CE2	PHE	206	16.154	55.908	104.264	1.00	19.23	HIGL
ATOM	1681	CZ	PHE	206	16.636	55.509	103.025	1.00	19.95	HIGL
ATOM	1682	C	PHE	206	11.588	54.791	103.900	1.00	19.04	HIGL
ATOM	1683	O	PHE	206	11.597	55.267	102.773	1.00	19.32	HIGL
ATOM	1684	N	ASP	207	11.173	55.462	104.965	1.00	19.22	HIGL
ATOM	1685	CA	ASP	207	10.636	56.810	104.841	1.00	19.23	HIGL
ATOM	1686	CB	ASP	207	9.175	56.802	105.286	1.00	19.16	HIGL
ATOM	1687	CG	ASP	207	8.407	55.625	104.718	1.00	19.38	HIGL
ATOM	1688	OD1	ASP	207	8.277	55.543	103.480	1.00	20.06	HIGL
ATOM	1689	OD2	ASP	207	7.942	54.778	105.507	1.00	18.36	HIGL

Fig. 2 cont.

72/174

ATOM	1690	C	ASP	207	11.381	57.871	105.629	1.00	18.86	HIGL
ATOM	1691	O	ASP	207	11.381	59.045	105.260	1.00	19.26	HIGL
ATOM	1692	N	MET	208	12.015	57.466	106.716	1.00	18.21	HIGL
ATOM	1693	CA	MET	208	12.714	58.433	107.540	1.00	18.11	HIGL
ATOM	1694	CB	MET	208	12.006	58.596	108.894	1.00	18.41	HIGL
ATOM	1695	CG	MET	208	10.534	58.987	108.820	1.00	20.52	HIGL
ATOM	1696	SD	MET	208	9.808	59.310	110.452	1.00	22.01	HIGL
ATOM	1697	CE	MET	208	10.379	60.977	110.731	1.00	20.87	HIGL
ATOM	1698	C	MET	208	14.161	58.083	107.804	1.00	17.69	HIGL
ATOM	1699	O	MET	208	14.579	56.928	107.707	1.00	17.61	HIGL
ATOM	1700	N	MET	209	14.918	59.119	108.129	1.00	16.92	HIGL
ATOM	1701	CA	MET	209	16.308	58.994	108.488	1.00	16.07	HIGL
ATOM	1702	CB	MET	209	17.213	59.645	107.443	1.00	16.00	HIGL
ATOM	1703	CG	MET	209	17.373	58.828	106.170	1.00	16.81	HIGL
ATOM	1704	SD	MET	209	18.554	59.575	105.009	1.00	19.85	HIGL
ATOM	1705	CE	MET	209	18.496	58.407	103.621	1.00	17.63	HIGL
ATOM	1706	C	MET	209	16.374	59.747	109.809	1.00	16.16	HIGL
ATOM	1707	O	MET	209	16.174	60.969	109.850	1.00	15.45	HIGL
ATOM	1708	N	GLY	210	16.600	59.001	110.891	1.00	15.65	HIGL
ATOM	1709	CA	GLY	210	16.695	59.603	112.210	1.00	14.42	HIGL
ATOM	1710	C	GLY	210	18.150	59.686	112.629	1.00	14.08	HIGL
ATOM	1711	O	GLY	210	18.961	58.883	112.175	1.00	13.68	HIGL
ATOM	1712	N	VAL	211	18.490	60.651	113.484	1.00	13.61	HIGL
ATOM	1713	CA	VAL	211	19.869	60.802	113.936	1.00	13.15	HIGL
ATOM	1714	CB	VAL	211	20.627	61.892	113.141	1.00	12.33	HIGL
ATOM	1715	CG1	VAL	211	20.537	61.611	111.663	1.00	13.18	HIGL
ATOM	1716	CG2	VAL	211	20.067	63.271	113.465	1.00	11.20	HIGL
ATOM	1717	C	VAL	211	19.984	61.175	115.400	1.00	13.77	HIGL
ATOM	1718	O	VAL	211	19.118	61.837	115.958	1.00	13.69	HIGL
ATOM	1719	N	SER	212	21.069	60.741	116.022	1.00	15.09	HIGL
ATOM	1720	CA	SER	212	21.313	61.079	117.411	1.00	15.93	HIGL
ATOM	1721	CB	SER	212	22.016	59.929	118.130	1.00	16.46	HIGL
ATOM	1722	OG	SER	212	21.185	58.781	118.176	1.00	17.21	HIGL
ATOM	1723	C	SER	212	22.208	62.315	117.376	1.00	16.32	HIGL
ATOM	1724	O	SER	212	23.149	62.395	116.582	1.00	16.25	HIGL
ATOM	1725	N	PHE	213	21.890	63.289	118.214	1.00	15.47	HIGL
ATOM	1726	CA	PHE	213	22.666	64.512	118.267	1.00	15.45	HIGL
ATOM	1727	CB	PHE	213	21.923	65.634	117.528	1.00	15.73	HIGL
ATOM	1728	CG	PHE	213	22.673	66.936	117.484	1.00	16.40	HIGL
ATOM	1729	CD1	PHE	213	23.883	67.036	116.799	1.00	16.45	HIGL
ATOM	1730	CD2	PHE	213	22.183	68.057	118.146	1.00	16.56	HIGL
ATOM	1731	CE1	PHE	213	24.596	68.231	116.777	1.00	15.36	HIGL
ATOM	1732	CE2	PHE	213	22.889	69.257	118.130	1.00	16.74	HIGL
ATOM	1733	CZ	PHE	213	24.100	69.340	117.443	1.00	16.06	HIGL
ATOM	1734	C	PHE	213	22.849	64.850	119.738	1.00	14.96	HIGL
ATOM	1735	O	PHE	213	21.888	65.175	120.436	1.00	15.30	HIGL
ATOM	1736	N	TYR	214	24.085	64.742	120.208	1.00	14.20	HIGL
ATOM	1737	CA	TYR	214	24.420	65.016	121.600	1.00	13.58	HIGL
ATOM	1738	CB	TYR	214	24.875	63.736	122.298	1.00	12.69	HIGL
ATOM	1739	CG	TYR	214	23.775	62.742	122.558	1.00	11.90	HIGL
ATOM	1740	CD1	TYR	214	22.902	62.906	123.631	1.00	11.71	HIGL
ATOM	1741	CE1	TYR	214	21.885	61.989	123.874	1.00	11.65	HIGL
ATOM	1742	CD2	TYR	214	23.602	61.635	121.731	1.00	10.99	HIGL
ATOM	1743	CE2	TYR	214	22.591	60.717	121.962	1.00	11.61	HIGL
ATOM	1744	CZ	TYR	214	21.735	60.899	123.035	1.00	11.76	HIGL
ATOM	1745	OH	TYR	214	20.722	59.997	123.259	1.00	12.70	HIGL
ATOM	1746	C	TYR	214	25.541	66.035	121.660	1.00	14.26	HIGL
ATOM	1747	O	TYR	214	26.346	66.141	120.742	1.00	15.11	HIGL
ATOM	1748	N	PRO	215	25.619	66.794	122.755	1.00	14.63	HIGL
ATOM	1749	CD	PRO	215	24.581	67.036	123.775	1.00	14.17	HIGL
ATOM	1750	CA	PRO	215	26.682	67.790	122.847	1.00	14.95	HIGL
ATOM	1751	CB	PRO	215	25.990	68.930	123.572	1.00	14.94	HIGL
ATOM	1752	CG	PRO	215	25.175	68.176	124.596	1.00	14.41	HIGL
ATOM	1753	C	PRO	215	27.924	67.322	123.598	1.00	15.93	HIGL
ATOM	1754	O	PRO	215	28.999	67.898	123.437	1.00	16.94	HIGL

Fig. 2 cont.

73/174

ATOM	1755	N	PHE	216	27.778	66.276	124.405	1.00	16.00	HIGL
ATOM	1756	CA	PHE	216	28.878	65.791	125.231	1.00	16.24	HIGL
ATOM	1757	CB	PHE	216	28.350	65.520	126.644	1.00	16.24	HIGL
ATOM	1758	CG	PHE	216	27.018	64.792	126.677	1.00	16.08	HIGL
ATOM	1759	CD1	PHE	216	26.861	63.555	126.055	1.00	15.04	HIGL
ATOM	1760	CD2	PHE	216	25.924	65.347	127.343	1.00	15.16	HIGL
ATOM	1761	CE1	PHE	216	25.638	62.889	126.095	1.00	15.26	HIGL
ATOM	1762	CE2	PHE	216	24.703	64.686	127.386	1.00	14.85	HIGL
ATOM	1763	CZ	PHE	216	24.560	63.453	126.759	1.00	14.72	HIGL
ATOM	1764	C	PHE	216	29.709	64.595	124.763	1.00	16.64	HIGL
ATOM	1765	O	PHE	216	30.291	63.882	125.580	1.00	16.43	HIGL
ATOM	1766	N	TYR	217	29.789	64.377	123.459	1.00	17.14	HIGL
ATOM	1767	CA	TYR	217	30.582	63.260	122.947	1.00	17.62	HIGL
ATOM	1768	CB	TYR	217	29.675	62.193	122.323	1.00	16.27	HIGL
ATOM	1769	CG	TYR	217	28.847	61.399	123.315	1.00	16.34	HIGL
ATOM	1770	CD1	TYR	217	29.440	60.785	124.421	1.00	16.29	HIGL
ATOM	1771	CE1	TYR	217	28.687	60.024	125.312	1.00	15.97	HIGL
ATOM	1772	CD2	TYR	217	27.477	61.232	123.131	1.00	15.38	HIGL
ATOM	1773	CE2	TYR	217	26.717	60.477	124.016	1.00	14.99	HIGL
ATOM	1774	CZ	TYR	217	27.324	59.875	125.102	1.00	16.23	HIGL
ATOM	1775	OH	TYR	217	26.566	59.120	125.977	1.00	17.30	HIGL
ATOM	1776	C	TYR	217	31.605	63.723	121.909	1.00	18.43	HIGL
ATOM	1777	O	TYR	217	32.308	62.908	121.317	1.00	19.53	HIGL
ATOM	1778	N	SER	218	31.693	65.034	121.703	1.00	18.33	HIGL
ATOM	1779	CA	SER	218	32.616	65.598	120.724	1.00	17.79	HIGL
ATOM	1780	CB	SER	218	32.501	64.839	119.403	1.00	17.69	HIGL
ATOM	1781	OG	SER	218	33.128	65.542	118.347	1.00	18.59	HIGL
ATOM	1782	C	SER	218	32.298	67.070	120.485	1.00	17.69	HIGL
ATOM	1783	O	SER	218	31.141	67.438	120.306	1.00	18.71	HIGL
ATOM	1784	N	ALA	219	33.321	67.912	120.476	1.00	17.22	HIGL
ATOM	1785	CA	ALA	219	33.104	69.337	120.252	1.00	17.23	HIGL
ATOM	1786	CB	ALA	219	34.382	70.118	120.554	1.00	16.44	HIGL
ATOM	1787	C	ALA	219	32.661	69.589	118.816	1.00	16.60	HIGL
ATOM	1788	O	ALA	219	32.258	70.696	118.467	1.00	17.34	HIGL
ATOM	1789	N	SER	220	32.730	68.550	117.991	1.00	16.51	HIGL
ATOM	1790	CA	SER	220	32.355	68.641	116.581	1.00	16.08	HIGL
ATOM	1791	CB	SER	220	32.954	67.466	115.809	1.00	15.86	HIGL
ATOM	1792	OG	SER	220	34.364	67.460	115.917	1.00	16.86	HIGL
ATOM	1793	C	SER	220	30.857	68.682	116.317	1.00	15.46	HIGL
ATOM	1794	O	SER	220	30.432	69.049	115.229	1.00	14.91	HIGL
ATOM	1795	N	ALA	221	30.061	68.300	117.309	1.00	15.99	HIGL
ATOM	1796	CA	ALA	221	28.606	68.279	117.164	1.00	16.78	HIGL
ATOM	1797	CB	ALA	221	27.995	67.427	118.271	1.00	16.23	HIGL
ATOM	1798	C	ALA	221	27.969	69.673	117.164	1.00	17.33	HIGL
ATOM	1799	O	ALA	221	27.074	69.959	117.963	1.00	17.73	HIGL
ATOM	1800	N	THR	222	28.422	70.534	116.260	1.00	17.34	HIGL
ATOM	1801	CA	THR	222	27.889	71.888	116.168	1.00	17.44	HIGL
ATOM	1802	CB	THR	222	28.805	72.788	115.326	1.00	16.76	HIGL
ATOM	1803	OG1	THR	222	28.859	72.290	113.988	1.00	16.54	HIGL
ATOM	1804	CG2	THR	222	30.211	72.801	115.899	1.00	17.46	HIGL
ATOM	1805	C	THR	222	26.505	71.891	115.531	1.00	18.33	HIGL
ATOM	1806	O	THR	222	26.189	71.044	114.692	1.00	19.58	HIGL
ATOM	1807	N	LEU	223	25.675	72.842	115.933	1.00	18.21	HIGL
ATOM	1808	CA	LEU	223	24.338	72.949	115.374	1.00	18.34	HIGL
ATOM	1809	CB	LEU	223	23.611	74.143	115.991	1.00	18.27	HIGL
ATOM	1810	CG	LEU	223	23.370	74.045	117.500	1.00	19.89	HIGL
ATOM	1811	CD1	LEU	223	22.888	75.388	118.034	1.00	19.53	HIGL
ATOM	1812	CD2	LEU	223	22.340	72.943	117.786	1.00	19.06	HIGL
ATOM	1813	C	LEU	223	24.437	73.122	113.860	1.00	18.82	HIGL
ATOM	1814	O	LEU	223	23.605	72.608	113.120	1.00	20.15	HIGL
ATOM	1815	N	ASP	224	25.457	73.846	113.406	1.00	18.59	HIGL
ATOM	1816	CA	ASP	224	25.669	74.086	111.982	1.00	19.10	HIGL
ATOM	1817	CB	ASP	224	26.858	75.026	111.769	1.00	18.84	HIGL
ATOM	1818	CG	ASP	224	26.468	76.494	111.816	1.00	18.91	HIGL
ATOM	1819	OD1	ASP	224	25.286	76.812	112.069	1.00	19.14	HIGL

Fig. 2 cont.

74/174

ATOM	1820	OD2	ASP	224	27.355	77.341	111.593	1.00	19.90	HIGL
ATOM	1821	C	ASP	224	25.915	72.793	111.214	1.00	19.58	HIGL
ATOM	1822	O	ASP	224	25.341	72.583	110.146	1.00	20.23	HIGL
ATOM	1823	N	SER	225	26.785	71.939	111.750	1.00	19.67	HIGL
ATOM	1824	CA	SER	225	27.095	70.664	111.112	1.00	19.06	HIGL
ATOM	1825	CB	SER	225	28.155	69.908	111.907	1.00	18.84	HIGL
ATOM	1826	OG	SER	225	29.403	70.567	111.840	1.00	18.91	HIGL
ATOM	1827	C	SER	225	25.838	69.811	110.997	1.00	19.40	HIGL
ATOM	1828	O	SER	225	25.601	69.186	109.968	1.00	19.64	HIGL
ATOM	1829	N	LEU	226	25.039	69.774	112.058	1.00	19.24	HIGL
ATOM	1830	CA	LEU	226	23.799	69.009	112.026	1.00	19.90	HIGL
ATOM	1831	CB	LEU	226	23.069	69.103	113.372	1.00	18.41	HIGL
ATOM	1832	CG	LEU	226	21.655	68.517	113.419	1.00	18.06	HIGL
ATOM	1833	CD1	LEU	226	21.698	67.027	113.124	1.00	17.29	HIGL
ATOM	1834	CD2	LEU	226	21.042	68.768	114.786	1.00	18.51	HIGL
ATOM	1835	C	LEU	226	22.943	69.628	110.925	1.00	20.05	HIGL
ATOM	1836	O	LEU	226	22.369	68.932	110.086	1.00	19.89	HIGL
ATOM	1837	N	ARG	227	22.883	70.951	110.941	1.00	20.56	HIGL
ATOM	1838	CA	ARG	227	22.127	71.717	109.965	1.00	22.15	HIGL
ATOM	1839	CB	ARG	227	22.374	73.203	110.200	1.00	23.23	HIGL
ATOM	1840	CG	ARG	227	21.847	74.113	109.125	1.00	23.67	HIGL
ATOM	1841	CD	ARG	227	20.585	74.801	109.561	1.00	25.35	HIGL
ATOM	1842	NE	ARG	227	20.264	75.881	108.636	1.00	27.51	HIGL
ATOM	1843	CZ	ARG	227	20.963	77.007	108.534	1.00	27.97	HIGL
ATOM	1844	NH1	ARG	227	22.025	77.213	109.308	1.00	27.24	HIGL
ATOM	1845	NH2	ARG	227	20.609	77.919	107.639	1.00	28.04	HIGL
ATOM	1846	C	ARG	227	22.532	71.349	108.541	1.00	22.77	HIGL
ATOM	1847	O	ARG	227	21.682	71.091	107.685	1.00	23.17	HIGL
ATOM	1848	N	ARG	228	23.835	71.337	108.292	1.00	22.62	HIGL
ATOM	1849	CA	ARG	228	24.351	71.005	106.974	1.00	23.23	HIGL
ATOM	1850	CB	ARG	228	25.854	71.275	106.907	1.00	25.19	HIGL
ATOM	1851	CG	ARG	228	26.497	70.809	105.611	1.00	27.85	HIGL
ATOM	1852	CD	ARG	228	27.951	71.218	105.576	1.00	31.64	HIGL
ATOM	1853	NE	ARG	228	28.217	72.426	104.784	1.00	34.16	HIGL
ATOM	1854	CZ	ARG	228	27.482	73.539	104.787	1.00	34.92	HIGL
ATOM	1855	NH1	ARG	228	26.385	73.644	105.537	1.00	34.00	HIGL
ATOM	1856	NH2	ARG	228	27.869	74.572	104.049	1.00	34.79	HIGL
ATOM	1857	C	ARG	228	24.106	69.553	106.623	1.00	21.71	HIGL
ATOM	1858	O	ARG	228	23.697	69.233	105.511	1.00	21.40	HIGL
ATOM	1859	N	SER	229	24.372	68.677	107.583	1.00	20.74	HIGL
ATOM	1860	CA	SER	229	24.209	67.248	107.385	1.00	19.19	HIGL
ATOM	1861	CB	SER	229	24.596	66.499	108.657	1.00	17.46	HIGL
ATOM	1862	OG	SER	229	24.667	65.112	108.415	1.00	16.03	HIGL
ATOM	1863	C	SER	229	22.778	66.920	106.985	1.00	19.19	HIGL
ATOM	1864	O	SER	229	22.551	66.215	106.001	1.00	19.76	HIGL
ATOM	1865	N	LEU	230	21.816	67.443	107.738	1.00	18.51	HIGL
ATOM	1866	CA	LEU	230	20.414	67.200	107.437	1.00	18.83	HIGL
ATOM	1867	CB	LEU	230	19.513	67.904	108.459	1.00	18.57	HIGL
ATOM	1868	CG	LEU	230	19.748	67.471	109.906	1.00	18.99	HIGL
ATOM	1869	CD1	LEU	230	18.765	68.159	110.830	1.00	18.90	HIGL
ATOM	1870	CD2	LEU	230	19.611	65.966	110.011	1.00	19.09	HIGL
ATOM	1871	C	LEU	230	20.072	67.673	106.025	1.00	18.43	HIGL
ATOM	1872	O	LEU	230	19.440	66.944	105.261	1.00	18.80	HIGL
ATOM	1873	N	ASN	231	20.492	68.887	105.678	1.00	17.99	HIGL
ATOM	1874	CA	ASN	231	20.222	69.418	104.348	1.00	18.50	HIGL
ATOM	1875	CB	ASN	231	20.775	70.832	104.203	1.00	20.27	HIGL
ATOM	1876	CG	ASN	231	19.831	71.884	104.755	1.00	21.88	HIGL
ATOM	1877	OD1	ASN	231	18.703	72.029	104.276	1.00	23.81	HIGL
ATOM	1878	ND2	ASN	231	20.284	72.624	105.763	1.00	21.50	HIGL
ATOM	1879	C	ASN	231	20.815	68.529	103.271	1.00	18.28	HIGL
ATOM	1880	O	ASN	231	20.164	68.262	102.256	1.00	17.76	HIGL
ATOM	1881	N	ASN	232	22.042	68.064	103.497	1.00	17.66	HIGL
ATOM	1882	CA	ASN	232	22.703	67.190	102.534	1.00	17.99	HIGL
ATOM	1883	CB	ASN	232	24.141	66.893	102.963	1.00	17.29	HIGL
ATOM	1884	CG	ASN	232	25.037	68.116	102.915	1.00	16.38	HIGL

Fig. 2 cont.

75/174

ATOM	1885	OD1	ASN	232	24.686	69.141	102.334	1.00	15.50	HIGL
ATOM	1886	ND2	ASN	232	26.213	68.005	103.521	1.00	16.64	HIGL
ATOM	1887	C	ASN	232	21.948	65.872	102.375	1.00	18.25	HIGL
ATOM	1888	O	ASN	232	21.748	65.387	101.259	1.00	17.98	HIGL
ATOM	1889	N	MET	233	21.536	65.298	103.501	1.00	18.52	HIGL
ATOM	1890	CA	MET	233	20.805	64.033	103.507	1.00	18.43	HIGL
ATOM	1891	CB	MET	233	20.538	63.589	104.951	1.00	18.18	HIGL
ATOM	1892	CG	MET	233	21.795	63.269	105.754	1.00	18.25	HIGL
ATOM	1893	SD	MET	233	21.474	63.063	107.531	1.00	19.43	HIGL
ATOM	1894	CE	MET	233	20.199	61.766	107.504	1.00	17.54	HIGL
ATOM	1895	C	MET	233	19.485	64.177	102.758	1.00	18.12	HIGL
ATOM	1896	O	MET	233	19.183	63.394	101.851	1.00	18.23	HIGL
ATOM	1897	N	VAL	234	18.707	65.186	103.146	1.00	17.24	HIGL
ATOM	1898	CA	VAL	234	17.411	65.455	102.530	1.00	16.91	HIGL
ATOM	1899	CB	VAL	234	16.744	66.687	103.179	1.00	15.88	HIGL
ATOM	1900	CG1	VAL	234	15.486	67.056	102.420	1.00	15.35	HIGL
ATOM	1901	CG2	VAL	234	16.413	66.390	104.638	1.00	15.47	HIGL
ATOM	1902	C	VAL	234	17.502	65.678	101.017	1.00	16.63	HIGL
ATOM	1903	O	VAL	234	16.784	65.045	100.245	1.00	16.27	HIGL
ATOM	1904	N	SER	235	18.391	66.575	100.603	1.00	16.80	HIGL
ATOM	1905	CA	SER	235	18.573	66.882	99.190	1.00	17.13	HIGL
ATOM	1906	CB	SER	235	19.578	68.023	99.024	1.00	17.78	HIGL
ATOM	1907	OG	SER	235	19.784	68.317	97.656	1.00	17.56	HIGL
ATOM	1908	C	SER	235	19.049	65.677	98.384	1.00	16.92	HIGL
ATOM	1909	O	SER	235	18.768	65.562	97.190	1.00	17.15	HIGL
ATOM	1910	N	ARG	236	19.759	64.774	99.045	1.00	16.40	HIGL
ATOM	1911	CA	ARG	236	20.290	63.595	98.384	1.00	16.55	HIGL
ATOM	1912	CB	ARG	236	21.568	63.161	99.084	1.00	17.11	HIGL
ATOM	1913	CG	ARG	236	22.156	61.872	98.562	1.00	18.73	HIGL
ATOM	1914	CD	ARG	236	22.995	62.074	97.321	1.00	19.62	HIGL
ATOM	1915	NE	ARG	236	23.973	60.997	97.231	1.00	24.11	HIGL
ATOM	1916	CZ	ARG	236	23.732	59.794	96.710	1.00	25.92	HIGL
ATOM	1917	NH1	ARG	236	22.532	59.505	96.205	1.00	24.62	HIGL
ATOM	1918	NH2	ARG	236	24.691	58.867	96.725	1.00	25.67	HIGL
ATOM	1919	C	ARG	236	19.343	62.400	98.298	1.00	16.75	HIGL
ATOM	1920	O	ARG	236	19.259	61.740	97.259	1.00	15.62	HIGL
ATOM	1921	N	TRP	237	18.637	62.111	99.385	1.00	16.82	HIGL
ATOM	1922	CA	TRP	237	17.745	60.961	99.390	1.00	16.41	HIGL
ATOM	1923	CB	TRP	237	18.224	59.966	100.453	1.00	16.05	HIGL
ATOM	1924	CG	TRP	237	19.505	59.294	100.040	1.00	14.89	HIGL
ATOM	1925	CD2	TRP	237	20.817	59.526	100.571	1.00	14.04	HIGL
ATOM	1926	CE2	TRP	237	21.717	58.738	99.817	1.00	14.30	HIGL
ATOM	1927	CE3	TRP	237	21.322	60.327	101.604	1.00	13.86	HIGL
ATOM	1928	CD1	TRP	237	19.659	58.398	99.023	1.00	15.03	HIGL
ATOM	1929	NE1	TRP	237	20.983	58.060	98.882	1.00	14.90	HIGL
ATOM	1930	C22	TRP	237	23.097	58.727	100.061	1.00	13.70	HIGL
ATOM	1931	CZ3	TRP	237	22.695	60.319	101.847	1.00	13.61	HIGL
ATOM	1932	CH2	TRP	237	23.566	59.522	101.074	1.00	14.26	HIGL
ATOM	1933	C	TRP	237	16.266	61.281	99.557	1.00	16.86	HIGL
ATOM	1934	O	TRP	237	15.430	60.383	99.522	1.00	18.12	HIGL
ATOM	1935	N	GLY	238	15.953	62.562	99.732	1.00	16.74	HIGL
ATOM	1936	CA	GLY	238	14.574	62.995	99.869	1.00	16.56	HIGL
ATOM	1937	C	GLY	238	13.714	62.388	100.966	1.00	17.47	HIGL
ATOM	1938	O	GLY	238	12.486	62.346	100.836	1.00	17.51	HIGL
ATOM	1939	N	LYS	239	14.330	61.933	102.053	1.00	16.96	HIGL
ATOM	1940	CA	LYS	239	13.564	61.339	103.146	1.00	16.74	HIGL
ATOM	1941	CB	LYS	239	14.327	60.152	103.724	1.00	16.66	HIGL
ATOM	1942	CG	LYS	239	14.606	59.053	102.730	1.00	17.05	HIGL
ATOM	1943	CD	LYS	239	13.312	58.511	102.175	1.00	15.57	HIGL
ATOM	1944	CE	LYS	239	13.561	57.342	101.262	1.00	14.83	HIGL
ATOM	1945	NZ	LYS	239	12.275	56.925	100.661	1.00	14.06	HIGL
ATOM	1946	C	LYS	239	13.302	62.344	104.261	1.00	16.96	HIGL
ATOM	1947	O	LYS	239	14.036	63.323	104.398	1.00	17.61	HIGL
ATOM	1948	N	GLU	240	12.257	62.118	105.056	1.00	17.26	HIGL
ATOM	1949	CA	GLU	240	11.985	63.016	106.181	1.00	16.82	HIGL

Fig. 2 cont.

76/174

ATOM	1950	CB	GLU	240	10.615	62.743	106.808	1.00	17.65	HIGL
ATOM	1951	CG	GLU	240	9.430	63.085	105.923	1.00	18.86	HIGL
ATOM	1952	CD	GLU	240	8.116	63.080	106.690	1.00	20.65	HIGL
ATOM	1953	OE1	GLU	240	7.818	62.067	107.353	1.00	21.31	HIGL
ATOM	1954	OE2	GLU	240	7.381	64.091	106.634	1.00	21.43	HIGL
ATOM	1955	C	GLU	240	13.088	62.751	107.209	1.00	16.31	HIGL
ATOM	1956	O	GLU	240	13.562	61.621	107.360	1.00	15.76	HIGL
ATOM	1957	N	VAL	241	13.493	63.793	107.917	1.00	15.69	HIGL
ATOM	1958	CA	VAL	241	14.571	63.666	108.883	1.00	15.54	HIGL
ATOM	1959	CB	VAL	241	15.754	64.547	108.432	1.00	14.72	HIGL
ATOM	1960	CG1	VAL	241	16.789	64.623	109.501	1.00	17.13	HIGL
ATOM	1961	CG2	VAL	241	16.361	63.974	107.178	1.00	15.36	HIGL
ATOM	1962	C	VAL	241	14.149	64.045	110.299	1.00	15.60	HIGL
ATOM	1963	O	VAL	241	13.161	64.758	110.495	1.00	16.76	HIGL
ATOM	1964	N	ALA	242	14.900	63.573	111.290	1.00	14.40	HIGL
ATOM	1965	CA	ALA	242	14.577	63.888	112.673	1.00	13.72	HIGL
ATOM	1966	CB	ALA	242	13.286	63.177	113.082	1.00	12.95	HIGL
ATOM	1967	C	ALA	242	15.681	63.519	113.645	1.00	13.47	HIGL
ATOM	1968	O	ALA	242	16.428	62.561	113.429	1.00	13.51	HIGL
ATOM	1969	N	VAL	243	15.791	64.303	114.711	1.00	13.04	HIGL
ATOM	1970	CA	VAL	243	16.760	64.023	115.758	1.00	13.08	HIGL
ATOM	1971	CB	VAL	243	17.192	65.294	116.497	1.00	12.64	HIGL
ATOM	1972	CG1	VAL	243	17.918	64.924	117.771	1.00	12.23	HIGL
ATOM	1973	CG2	VAL	243	18.088	66.125	115.604	1.00	12.08	HIGL
ATOM	1974	C	VAL	243	15.964	63.139	116.701	1.00	13.56	HIGL
ATOM	1975	O	VAL	243	15.014	63.593	117.346	1.00	13.37	HIGL
ATOM	1976	N	VAL	244	16.328	61.866	116.754	1.00	14.00	HIGL
ATOM	1977	CA	VAL	244	15.608	60.927	117.593	1.00	14.42	HIGL
ATOM	1978	CB	VAL	244	15.476	59.569	116.877	1.00	13.73	HIGL
ATOM	1979	CG1	VAL	244	14.782	59.774	115.548	1.00	13.75	HIGL
ATOM	1980	CG2	VAL	244	16.831	58.955	116.653	1.00	12.09	HIGL
ATOM	1981	C	VAL	244	16.242	60.742	118.965	1.00	15.18	HIGL
ATOM	1982	O	VAL	244	15.748	59.965	119.783	1.00	14.93	HIGL
ATOM	1983	N	GLU	245	17.320	61.479	119.218	1.00	15.57	HIGL
ATOM	1984	CA	GLU	245	18.023	61.397	120.490	1.00	16.66	HIGL
ATOM	1985	CB	GLU	245	18.933	60.176	120.517	1.00	17.90	HIGL
ATOM	1986	CG	GLU	245	18.295	58.883	120.921	1.00	19.86	HIGL
ATOM	1987	CD	GLU	245	19.325	57.778	121.021	1.00	21.19	HIGL
ATOM	1988	OE1	GLU	245	20.395	58.018	121.624	1.00	22.19	HIGL
ATOM	1989	OE2	GLU	245	19.071	56.673	120.502	1.00	22.22	HIGL
ATOM	1990	C	GLU	245	18.892	62.616	120.780	1.00	17.25	HIGL
ATOM	1991	O	GLU	245	19.756	62.984	119.979	1.00	17.63	HIGL
ATOM	1992	N	THR	246	18.675	63.226	121.938	1.00	16.70	HIGL
ATOM	1993	CA	THR	246	19.468	64.372	122.350	1.00	16.24	HIGL
ATOM	1994	CB	THR	246	19.133	65.632	121.534	1.00	16.24	HIGL
ATOM	1995	OG1	THR	246	20.097	66.649	121.831	1.00	16.02	HIGL
ATOM	1996	CG2	THR	246	17.737	66.146	121.872	1.00	14.97	HIGL
ATOM	1997	C	THR	246	19.221	64.650	123.824	1.00	16.42	HIGL
ATOM	1998	O	THR	246	18.165	64.315	124.356	1.00	16.91	HIGL
ATOM	1999	N	ASN	247	20.206	65.256	124.475	1.00	16.16	HIGL
ATOM	2000	CA	ASN	247	20.125	65.586	125.891	1.00	16.42	HIGL
ATOM	2001	CB	ASN	247	20.753	64.482	126.754	1.00	18.32	HIGL
ATOM	2002	CG	ASN	247	19.876	63.247	126.900	1.00	19.99	HIGL
ATOM	2003	OD1	ASN	247	20.357	62.190	127.311	1.00	20.70	HIGL
ATOM	2004	ND2	ASN	247	18.593	63.374	126.587	1.00	19.85	HIGL
ATOM	2005	C	ASN	247	20.931	66.850	126.139	1.00	16.21	HIGL
ATOM	2006	O	ASN	247	21.769	67.235	125.329	1.00	16.56	HIGL
ATOM	2007	N	TRP	248	20.664	67.491	127.267	1.00	15.12	HIGL
ATOM	2008	CA	TRP	248	21.407	68.666	127.680	1.00	14.40	HIGL
ATOM	2009	CB	TRP	248	20.750	69.965	127.235	1.00	14.05	HIGL
ATOM	2010	CG	TRP	248	21.582	71.144	127.642	1.00	13.41	HIGL
ATOM	2011	CD2	TRP	248	22.789	71.592	127.020	1.00	12.55	HIGL
ATOM	2012	CE2	TRP	248	23.279	72.674	127.787	1.00	13.08	HIGL
ATOM	2013	CE3	TRP	248	23.508	71.183	125.890	1.00	12.85	HIGL
ATOM	2014	CD1	TRP	248	21.391	71.950	128.728	1.00	13.60	HIGL

Fig. 2 cont.

77/174

ATOM	2015	NE1	TRP	248	22.408	72.870	128.824	1.00	12.73	HIGL
ATOM	2016	CZ2	TRP	248	24.457	73.352	127.458	1.00	12.54	HIGL
ATOM	2017	CZ3	TRP	248	24.679	71.857	125.564	1.00	11.70	HIGL
ATOM	2018	CH2	TRP	248	25.141	72.929	126.347	1.00	12.92	HIGL
ATOM	2019	C	TRP	248	21.404	68.570	129.188	1.00	14.62	HIGL
ATOM	2020	O	TRP	248	20.351	68.434	129.802	1.00	15.22	HIGL
ATOM	2021	N	PRO	249	22.585	68.633	129.808	1.00	14.33	HIGL
ATOM	2022	CD	PRO	249	23.925	68.623	129.197	1.00	14.04	HIGL
ATOM	2023	CA	PRO	249	22.673	68.532	131.260	1.00	14.94	HIGL
ATOM	2024	CB	PRO	249	24.099	68.041	131.468	1.00	14.74	HIGL
ATOM	2025	CG	PRO	249	24.836	68.752	130.390	1.00	13.70	HIGL
ATOM	2026	C	PRO	249	22.381	69.783	132.066	1.00	15.82	HIGL
ATOM	2027	O	PRO	249	22.594	70.895	131.604	1.00	16.63	HIGL
ATOM	2028	N	THR	250	21.882	69.578	133.282	1.00	17.24	HIGL
ATOM	2029	CA	THR	250	21.603	70.672	134.207	1.00	17.83	HIGL
ATOM	2030	CB	THR	250	20.308	70.451	134.975	1.00	16.40	HIGL
ATOM	2031	OG1	THR	250	20.478	69.353	135.875	1.00	16.53	HIGL
ATOM	2032	CG2	THR	250	19.174	70.153	134.014	1.00	17.51	HIGL
ATOM	2033	C	THR	250	22.758	70.645	135.206	1.00	18.49	HIGL
ATOM	2034	O	THR	250	22.875	71.509	136.078	1.00	19.82	HIGL
ATOM	2035	N	SER	251	23.601	69.627	135.057	1.00	18.20	HIGL
ATOM	2036	CA	SER	251	24.769	69.426	135.897	1.00	17.27	HIGL
ATOM	2037	CB	SER	251	24.373	68.700	137.181	1.00	16.80	HIGL
ATOM	2038	OG	SER	251	25.486	68.537	138.046	1.00	16.67	HIGL
ATOM	2039	C	SER	251	25.769	68.579	135.122	1.00	17.65	HIGL
ATOM	2040	O	SER	251	25.444	67.476	134.682	1.00	17.82	HIGL
ATOM	2041	N	CYS	252	26.975	69.099	134.936	1.00	17.77	HIGL
ATOM	2042	CA	CYS	252	28.012	68.359	134.218	1.00	19.00	HIGL
ATOM	2043	C	CYS	252	29.375	68.791	134.751	1.00	18.46	HIGL
ATOM	2044	O	CYS	252	30.142	69.460	134.069	1.00	18.37	HIGL
ATOM	2045	CB	CYS	252	27.940	68.611	132.703	1.00	19.48	HIGL
ATOM	2046	SG	CYS	252	28.860	67.349	131.755	1.00	21.91	HIGL
ATOM	2047	N	PRO	253	29.687	68.402	135.992	1.00	18.43	HIGL
ATOM	2048	CD	PRO	253	28.822	67.630	136.898	1.00	17.81	HIGL
ATOM	2049	CA	PRO	253	30.950	68.739	136.650	1.00	18.32	HIGL
ATOM	2050	CB	PRO	253	30.789	68.130	138.038	1.00	17.88	HIGL
ATOM	2051	CG	PRO	253	29.313	68.078	138.228	1.00	18.40	HIGL
ATOM	2052	C	PRO	253	32.191	68.204	135.952	1.00	18.83	HIGL
ATOM	2053	O	PRO	253	33.213	68.887	135.900	1.00	18.49	HIGL
ATOM	2054	N	TYR	254	32.102	66.989	135.414	1.00	19.26	HIGL
ATOM	2055	CA	TYR	254	33.256	66.378	134.766	1.00	19.93	HIGL
ATOM	2056	CB	TYR	254	33.782	65.223	135.616	1.00	19.85	HIGL
ATOM	2057	CG	TYR	254	33.909	65.574	137.076	1.00	19.85	HIGL
ATOM	2058	CD1	TYR	254	32.816	65.468	137.934	1.00	18.49	HIGL
ATOM	2059	CE1	TYR	254	32.915	65.836	139.268	1.00	18.20	HIGL
ATOM	2060	CD2	TYR	254	35.112	66.060	137.594	1.00	19.80	HIGL
ATOM	2061	CE2	TYR	254	35.218	66.434	138.930	1.00	18.50	HIGL
ATOM	2062	CZ	TYR	254	34.115	66.319	139.755	1.00	18.08	HIGL
ATOM	2063	OH	TYR	254	34.207	66.697	141.065	1.00	18.79	HIGL
ATOM	2064	C	TYR	254	33.031	65.873	133.357	1.00	21.05	HIGL
ATOM	2065	O	TYR	254	32.995	64.667	133.128	1.00	22.11	HIGL
ATOM	2066	N	PRO	255	32.898	66.789	132.387	1.00	21.11	HIGL
ATOM	2067	CD	PRO	255	33.042	68.251	132.488	1.00	20.35	HIGL
ATOM	2068	CA	PRO	255	32.684	66.391	130.999	1.00	21.28	HIGL
ATOM	2069	CB	PRO	255	32.472	67.724	130.299	1.00	21.29	HIGL
ATOM	2070	CG	PRO	255	33.369	68.632	131.075	1.00	20.00	HIGL
ATOM	2071	C	PRO	255	33.910	65.667	130.469	1.00	22.18	HIGL
ATOM	2072	O	PRO	255	35.034	66.059	130.767	1.00	22.28	HIGL
ATOM	2073	N	ARG	256	33.698	64.613	129.686	1.00	23.41	HIGL
ATOM	2074	CA	ARG	256	34.817	63.872	129.118	1.00	24.09	HIGL
ATOM	2075	CB	ARG	256	34.386	62.462	128.702	1.00	25.18	HIGL
ATOM	2076	CG	ARG	256	35.537	61.602	128.198	1.00	28.36	HIGL
ATOM	2077	CD	ARG	256	35.062	60.254	127.676	1.00	31.88	HIGL
ATOM	2078	NE	ARG	256	36.176	59.403	127.254	1.00	35.40	HIGL
ATOM	2079	CZ	ARG	256	36.043	58.228	126.636	1.00	36.69	HIGL

Fig. 2 cont.

78/174

ATOM	2080	NH1	ARG	256	34.837	57.744	126.353	1.00	36.99	HIGL
ATOM	2081	NH2	ARG	256	37.122	57.528	126.305	1.00	37.44	HIGL
ATOM	2082	C	ARG	256	35.354	64.625	127.905	1.00	23.61	HIGL
ATOM	2083	O	ARG	256	36.538	64.553	127.593	1.00	23.73	HIGL
ATOM	2084	N	TYR	257	34.481	65.357	127.226	1.00	22.94	HIGL
ATOM	2085	CA	TYR	257	34.893	66.107	126.054	1.00	23.27	HIGL
ATOM	2086	CB	TYR	257	34.287	65.502	124.788	1.00	23.86	HIGL
ATOM	2087	CG	TYR	257	34.485	64.018	124.653	1.00	24.59	HIGL
ATOM	2088	CD1	TYR	257	33.570	63.124	125.204	1.00	25.20	HIGL
ATOM	2089	CE1	TYR	257	33.742	61.747	125.077	1.00	26.62	HIGL
ATOM	2090	CD2	TYR	257	35.585	63.502	123.970	1.00	24.88	HIGL
ATOM	2091	CE2	TYR	257	35.771	62.128	123.838	1.00	26.37	HIGL
ATOM	2092	CZ	TYR	257	34.843	61.255	124.395	1.00	27.15	HIGL
ATOM	2093	OH	TYR	257	35.018	59.895	124.276	1.00	27.95	HIGL
ATOM	2094	C	TYR	257	34.480	67.567	126.127	1.00	23.40	HIGL
ATOM	2095	O	TYR	257	33.530	67.929	126.813	1.00	23.44	HIGL
ATOM	2096	N	GLN	258	35.204	68.406	125.404	1.00	23.33	HIGL
ATOM	2097	CA	GLN	258	34.886	69.816	125.367	1.00	23.32	HIGL
ATOM	2098	CB	GLN	258	35.998	70.566	124.641	1.00	25.30	HIGL
ATOM	2099	CG	GLN	258	35.814	72.063	124.549	1.00	29.69	HIGL
ATOM	2100	CD	GLN	258	37.146	72.781	124.380	1.00	33.22	HIGL
ATOM	2101	OE1	GLN	258	37.199	73.936	123.943	1.00	34.85	HIGL
ATOM	2102	NE2	GLN	258	38.234	72.099	124.741	1.00	33.71	HIGL
ATOM	2103	C	GLN	258	33.573	69.922	124.608	1.00	21.85	HIGL
ATOM	2104	O	GLN	258	33.359	69.209	123.632	1.00	21.62	HIGL
ATOM	2105	N	PHE	259	32.680	70.784	125.067	1.00	20.74	HIGL
ATOM	2106	CA	PHE	259	31.405	70.954	124.390	1.00	20.36	HIGL
ATOM	2107	CB	PHE	259	30.415	71.652	125.318	1.00	20.17	HIGL
ATOM	2108	CG	PHE	259	29.691	70.718	126.243	1.00	20.50	HIGL
ATOM	2109	CD1	PHE	259	30.383	69.756	126.969	1.00	20.48	HIGL
ATOM	2110	CD2	PHE	259	28.310	70.803	126.391	1.00	19.48	HIGL
ATOM	2111	CE1	PHE	259	29.707	68.887	127.830	1.00	21.21	HIGL
ATOM	2112	CE2	PHE	259	27.629	69.943	127.246	1.00	19.74	HIGL
ATOM	2113	CZ	PHE	259	28.328	68.982	127.968	1.00	20.03	HIGL
ATOM	2114	C	PHE	259	31.578	71.769	123.110	1.00	20.28	HIGL
ATOM	2115	O	PHE	259	32.557	72.486	122.953	1.00	19.93	HIGL
ATOM	2116	N	PRO	260	30.637	71.651	122.165	1.00	20.85	HIGL
ATOM	2117	CD	PRO	260	29.527	70.687	122.073	1.00	20.21	HIGL
ATOM	2118	CA	PRO	260	30.766	72.427	120.924	1.00	21.17	HIGL
ATOM	2119	CB	PRO	260	29.506	72.048	120.156	1.00	21.01	HIGL
ATOM	2120	CG	PRO	260	29.291	70.617	120.584	1.00	20.56	HIGL
ATOM	2121	C	PRO	260	30.837	73.928	121.239	1.00	21.74	HIGL
ATOM	2122	O	PRO	260	30.163	74.414	122.150	1.00	21.19	HIGL
ATOM	2123	N	ALA	261	31.657	74.654	120.487	1.00	21.93	HIGL
ATOM	2124	CA	ALA	261	31.830	76.089	120.697	1.00	22.38	HIGL
ATOM	2125	CB	ALA	261	32.836	76.636	119.697	1.00	21.76	HIGL
ATOM	2126	C	ALA	261	30.540	76.901	120.621	1.00	22.55	HIGL
ATOM	2127	O	ALA	261	30.411	77.929	121.290	1.00	23.31	HIGL
ATOM	2128	N	ASP	262	29.586	76.449	119.814	1.00	22.59	HIGL
ATOM	2129	CA	ASP	262	28.331	77.173	119.674	1.00	23.66	HIGL
ATOM	2130	CB	ASP	262	27.570	76.715	118.426	1.00	24.06	HIGL
ATOM	2131	CG	ASP	262	27.368	75.206	118.369	1.00	25.82	HIGL
ATOM	2132	OD1	ASP	262	27.333	74.550	119.435	1.00	26.18	HIGL
ATOM	2133	OD2	ASP	262	27.224	74.677	117.243	1.00	26.76	HIGL
ATOM	2134	C	ASP	262	27.401	77.095	120.878	1.00	24.22	HIGL
ATOM	2135	O	ASP	262	26.449	77.866	120.965	1.00	24.88	HIGL
ATOM	2136	N	VAL	263	27.661	76.174	121.802	1.00	25.01	HIGL
ATOM	2137	CA	VAL	263	26.803	76.042	122.976	1.00	26.27	HIGL
ATOM	2138	CB	VAL	263	26.062	74.680	122.990	1.00	25.93	HIGL
ATOM	2139	CG1	VAL	263	25.179	74.554	121.757	1.00	24.73	HIGL
ATOM	2140	CG2	VAL	263	27.056	73.540	123.063	1.00	25.19	HIGL
ATOM	2141	C	VAL	263	27.525	76.211	124.309	1.00	27.53	HIGL
ATOM	2142	O	VAL	263	26.931	76.014	125.365	1.00	27.35	HIGL
ATOM	2143	N	ARG	264	28.799	76.590	124.257	1.00	29.44	HIGL
ATOM	2144	CA	ARG	264	29.595	76.782	125.466	1.00	31.50	HIGL

Fig. 2 cont.

79/174

ATOM	2145	CB	ARG	264	31.066	76.969	125.092	1.00	32.75	HIGL
ATOM	2146	CG	ARG	264	31.645	75.755	124.389	1.00	35.35	HIGL
ATOM	2147	CD	ARG	264	33.075	75.968	123.917	1.00	37.11	HIGL
ATOM	2148	NE	ARG	264	33.550	74.810	123.161	1.00	38.51	HIGL
ATOM	2149	CZ	ARG	264	34.738	74.727	122.571	1.00	38.26	HIGL
ATOM	2150	NH1	ARG	264	35.590	75.742	122.646	1.00	38.84	HIGL
ATOM	2151	NH2	ARG	264	35.072	73.629	121.903	1.00	37.21	HIGL
ATOM	2152	C	ARG	264	29.110	77.968	126.294	1.00	31.82	HIGL
ATOM	2153	O	ARG	264	29.649	78.256	127.360	1.00	32.57	HIGL
ATOM	2154	N	ASN	265	28.086	78.648	125.796	1.00	31.94	HIGL
ATOM	2155	CA	ASN	265	27.508	79.801	126.480	1.00	31.74	HIGL
ATOM	2156	CB	ASN	265	27.189	80.893	125.464	1.00	33.87	HIGL
ATOM	2157	CG	ASN	265	26.419	80.357	124.264	1.00	35.62	HIGL
ATOM	2158	OD1	ASN	265	25.213	80.600	124.115	1.00	36.81	HIGL
ATOM	2159	ND2	ASN	265	27.113	79.608	123.407	1.00	35.24	HIGL
ATOM	2160	C	ASN	265	26.227	79.376	127.175	1.00	30.26	HIGL
ATOM	2161	O	ASN	265	25.738	80.064	128.067	1.00	31.10	HIGL
ATOM	2162	N	VAL	266	25.685	78.240	126.746	1.00	28.31	HIGL
ATOM	2163	CA	VAL	266	24.455	77.701	127.307	1.00	25.56	HIGL
ATOM	2164	CB	VAL	266	23.844	76.635	126.374	1.00	25.88	HIGL
ATOM	2165	CG1	VAL	266	22.547	76.096	126.970	1.00	25.25	HIGL
ATOM	2166	CG2	VAL	266	23.594	77.241	124.992	1.00	24.06	HIGL
ATOM	2167	C	VAL	266	24.755	77.087	128.668	1.00	23.91	HIGL
ATOM	2168	O	VAL	266	25.624	76.228	128.798	1.00	23.76	HIGL
ATOM	2169	N	PRO	267	24.038	77.534	129.706	1.00	21.98	HIGL
ATOM	2170	CD	PRO	267	23.034	78.615	129.662	1.00	20.37	HIGL
ATOM	2171	CA	PRO	267	24.216	77.047	131.075	1.00	20.98	HIGL
ATOM	2172	CB	PRO	267	23.483	78.099	131.899	1.00	20.76	HIGL
ATOM	2173	CG	PRO	267	22.349	78.475	130.996	1.00	20.01	HIGL
ATOM	2174	C	PRO	267	23.670	75.655	131.340	1.00	20.67	HIGL
ATOM	2175	O	PRO	267	22.759	75.190	130.652	1.00	20.51	HIGL
ATOM	2176	N	PHE	268	24.239	74.985	132.338	1.00	20.18	HIGL
ATOM	2177	CA	PHE	268	23.755	73.668	132.713	1.00	19.81	HIGL
ATOM	2178	CB	PHE	268	24.863	72.819	133.338	1.00	19.33	HIGL
ATOM	2179	CG	PHE	268	26.001	72.540	132.405	1.00	18.57	HIGL
ATOM	2180	CD1	PHE	268	25.755	72.175	131.079	1.00	18.00	HIGL
ATOM	2181	CD2	PHE	268	27.320	72.663	132.837	1.00	17.98	HIGL
ATOM	2182	CE1	PHE	268	26.802	71.941	130.196	1.00	17.94	HIGL
ATOM	2183	CE2	PHE	268	28.382	72.431	131.961	1.00	17.83	HIGL
ATOM	2184	CZ	PHE	268	28.121	72.070	130.635	1.00	18.17	HIGL
ATOM	2185	C	PHE	268	22.667	73.953	133.727	1.00	19.80	HIGL
ATOM	2186	O	PHE	268	22.942	74.140	134.916	1.00	19.98	HIGL
ATOM	2187	N	SER	269	21.434	74.020	133.234	1.00	18.90	HIGL
ATOM	2188	CA	SER	269	20.281	74.310	134.066	1.00	18.82	HIGL
ATOM	2189	CB	SER	269	20.339	75.752	134.567	1.00	19.28	HIGL
ATOM	2190	OG	SER	269	20.163	76.667	133.494	1.00	20.35	HIGL
ATOM	2191	C	SER	269	19.021	74.133	133.243	1.00	18.90	HIGL
ATOM	2192	O	SER	269	19.080	73.972	132.022	1.00	19.79	HIGL
ATOM	2193	N	ALA	270	17.880	74.169	133.917	1.00	17.92	HIGL
ATOM	2194	CA	ALA	270	16.604	74.030	133.245	1.00	17.69	HIGL
ATOM	2195	CB	ALA	270	15.478	74.256	134.230	1.00	17.34	HIGL
ATOM	2196	C	ALA	270	16.526	75.050	132.111	1.00	18.21	HIGL
ATOM	2197	O	ALA	270	16.018	74.752	131.028	1.00	19.17	HIGL
ATOM	2198	N	ALA	271	17.033	76.254	132.359	1.00	17.66	HIGL
ATOM	2199	CA	ALA	271	17.008	77.307	131.346	1.00	16.71	HIGL
ATOM	2200	CB	ALA	271	17.545	78.605	131.926	1.00	16.21	HIGL
ATOM	2201	C	ALA	271	17.838	76.886	130.145	1.00	16.17	HIGL
ATOM	2202	O	ALA	271	17.407	77.035	129.006	1.00	15.94	HIGL
ATOM	2203	N	GLY	272	19.024	76.348	130.415	1.00	16.09	HIGL
ATOM	2204	CA	GLY	272	19.906	75.900	129.353	1.00	16.02	HIGL
ATOM	2205	C	GLY	272	19.321	74.768	128.528	1.00	16.50	HIGL
ATOM	2206	O	GLY	272	19.527	74.700	127.316	1.00	16.42	HIGL
ATOM	2207	N	GLN	273	18.593	73.867	129.177	1.00	16.88	HIGL
ATOM	2208	CA	GLN	273	17.985	72.762	128.454	1.00	17.26	HIGL
ATOM	2209	CB	GLN	273	17.267	71.809	129.414	1.00	16.57	HIGL

Fig. 2 cont.

80/174

ATOM	2210	CG	GLN	273	18.186	71.041	130.354	1.00	16.40	HIGL
ATOM	2211	CD	GLN	273	17.438	70.007	131.175	1.00	15.47	HIGL
ATOM	2212	OE1	GLN	273	16.479	70.330	131.868	1.00	15.89	HIGL
ATOM	2213	NE2	GLN	273	17.877	68.758	131.101	1.00	15.09	HIGL
ATOM	2214	C	GLN	273	16.986	73.323	127.452	1.00	18.10	HIGL
ATOM	2215	O	GLN	273	16.955	72.903	126.297	1.00	19.02	HIGL
ATOM	2216	N	THR	274	16.172	74.275	127.901	1.00	18.71	HIGL
ATOM	2217	CA	THR	274	15.161	74.899	127.058	1.00	19.11	HIGL
ATOM	2218	CB	THR	274	14.419	76.016	127.826	1.00	20.20	HIGL
ATOM	2219	OG1	THR	274	13.856	75.469	129.026	1.00	21.70	HIGL
ATOM	2220	CG2	THR	274	13.293	76.603	126.978	1.00	20.14	HIGL
ATOM	2221	C	THR	274	15.840	75.498	125.842	1.00	19.34	HIGL
ATOM	2222	O	THR	274	15.485	75.213	124.700	1.00	18.39	HIGL
ATOM	2223	N	GLN	275	16.838	76.325	126.115	1.00	20.37	HIGL
ATOM	2224	CA	GLN	275	17.613	76.999	125.087	1.00	21.17	HIGL
ATOM	2225	CB	GLN	275	18.747	77.761	125.766	1.00	22.42	HIGL
ATOM	2226	CG	GLN	275	19.418	78.828	124.942	1.00	25.01	HIGL
ATOM	2227	CD	GLN	275	20.454	79.578	125.759	1.00	28.13	HIGL
ATOM	2228	OE1	GLN	275	20.205	79.943	126.918	1.00	28.91	HIGL
ATOM	2229	NE2	GLN	275	21.621	79.817	125.166	1.00	29.71	HIGL
ATOM	2230	C	GLN	275	18.180	75.997	124.077	1.00	21.54	HIGL
ATOM	2231	O	GLN	275	18.022	76.167	122.866	1.00	21.25	HIGL
ATOM	2232	N	TYR	276	18.831	74.948	124.579	1.00	20.83	HIGL
ATOM	2233	CA	TYR	276	19.431	73.941	123.712	1.00	20.67	HIGL
ATOM	2234	CB	TYR	276	20.283	72.961	124.528	1.00	19.62	HIGL
ATOM	2235	CG	TYR	276	20.995	71.923	123.681	1.00	18.90	HIGL
ATOM	2236	CD1	TYR	276	22.193	72.222	123.020	1.00	18.90	HIGL
ATOM	2237	CE1	TYR	276	22.854	71.260	122.245	1.00	18.33	HIGL
ATOM	2238	CD2	TYR	276	20.471	70.641	123.540	1.00	18.85	HIGL
ATOM	2239	CE2	TYR	276	21.114	69.677	122.769	1.00	18.77	HIGL
ATOM	2240	CZ	TYR	276	22.304	69.986	122.127	1.00	19.64	HIGL
ATOM	2241	OH	TYR	276	22.938	69.006	121.391	1.00	19.63	HIGL
ATOM	2242	C	TYR	276	18.406	73.150	122.907	1.00	20.77	HIGL
ATOM	2243	O	TYR	276	18.547	72.992	121.695	1.00	20.48	HIGL
ATOM	2244	N	ILE	277	17.386	72.639	123.584	1.00	21.04	HIGL
ATOM	2245	CA	ILE	277	16.361	71.857	122.912	1.00	21.46	HIGL
ATOM	2246	CB	ILE	277	15.303	71.345	123.913	1.00	21.68	HIGL
ATOM	2247	CG2	ILE	277	14.172	70.635	123.167	1.00	21.01	HIGL
ATOM	2248	CG1	ILE	277	15.965	70.393	124.912	1.00	20.42	HIGL
ATOM	2249	CD1	ILE	277	15.058	69.950	126.033	1.00	21.50	HIGL
ATOM	2250	C	ILE	277	15.685	72.690	121.841	1.00	21.85	HIGL
ATOM	2251	O	ILE	277	15.334	72.185	120.780	1.00	21.88	HIGL
ATOM	2252	N	GLN	278	15.520	73.975	122.114	1.00	22.68	HIGL
ATOM	2253	CA	GLN	278	14.881	74.863	121.159	1.00	23.40	HIGL
ATOM	2254	CB	GLN	278	14.468	76.164	121.856	1.00	25.27	HIGL
ATOM	2255	CG	GLN	278	13.664	77.127	120.993	1.00	28.71	HIGL
ATOM	2256	CD	GLN	278	12.524	77.786	121.759	1.00	31.37	HIGL
ATOM	2257	OE1	GLN	278	12.699	78.244	122.900	1.00	32.36	HIGL
ATOM	2258	NE2	GLN	278	11.347	77.845	121.132	1.00	31.74	HIGL
ATOM	2259	C	GLN	278	15.789	75.145	119.963	1.00	22.37	HIGL
ATOM	2260	O	GLN	278	15.319	75.205	118.829	1.00	22.41	HIGL
ATOM	2261	N	SER	279	17.085	75.311	120.213	1.00	21.36	HIGL
ATOM	2262	CA	SER	279	18.042	75.563	119.137	1.00	20.77	HIGL
ATOM	2263	CB	SER	279	19.445	75.775	119.697	1.00	20.20	HIGL
ATOM	2264	OG	SER	279	19.492	76.892	120.554	1.00	21.57	HIGL
ATOM	2265	C	SER	279	18.083	74.372	118.185	1.00	20.98	HIGL
ATOM	2266	O	SER	279	18.103	74.536	116.962	1.00	21.23	HIGL
ATOM	2267	N	VAL	280	18.102	73.172	118.762	1.00	20.27	HIGL
ATOM	2268	CA	VAL	280	18.141	71.945	117.983	1.00	19.59	HIGL
ATOM	2269	CB	VAL	280	18.294	70.721	118.905	1.00	18.93	HIGL
ATOM	2270	CG1	VAL	280	18.277	69.436	118.088	1.00	18.16	HIGL
ATOM	2271	CG2	VAL	280	19.586	70.837	119.686	1.00	17.85	HIGL
ATOM	2272	C	VAL	280	16.865	71.821	117.161	1.00	19.71	HIGL
ATOM	2273	O	VAL	280	16.895	71.371	116.015	1.00	19.74	HIGL
ATOM	2274	N	ALA	281	15.744	72.229	117.746	1.00	19.63	HIGL

Fig. 2 cont.

81/174

ATOM	2275	CA	ALA	281	14.467	72.176	117.044	1.00	19.86	HIGL
ATOM	2276	CB	ALA	281	13.324	72.570	117.982	1.00	19.49	HIGL
ATOM	2277	C	ALA	281	14.519	73.123	115.847	1.00	19.99	HIGL
ATOM	2278	O	ALA	281	14.070	72.782	114.751	1.00	19.99	HIGL
ATOM	2279	N	ASN	282	15.080	74.309	116.056	1.00	20.40	HIGL
ATOM	2280	CA	ASN	282	15.189	75.283	114.979	1.00	21.01	HIGL
ATOM	2281	CB	ASN	282	15.867	76.562	115.463	1.00	22.58	HIGL
ATOM	2282	CG	ASN	282	15.081	77.253	116.555	1.00	25.95	HIGL
ATOM	2283	OD1	ASN	282	13.850	77.335	116.489	1.00	27.58	HIGL
ATOM	2284	ND2	ASN	282	15.786	77.765	117.567	1.00	25.99	HIGL
ATOM	2285	C	ASN	282	15.976	74.709	113.818	1.00	20.44	HIGL
ATOM	2286	O	ASN	282	15.608	74.915	112.662	1.00	21.36	HIGL
ATOM	2287	N	VAL	283	17.058	73.995	114.118	1.00	18.69	HIGL
ATOM	2288	CA	VAL	283	17.868	73.396	113.064	1.00	18.11	HIGL
ATOM	2289	CB	VAL	283	19.105	72.668	113.639	1.00	17.40	HIGL
ATOM	2290	CG1	VAL	283	19.738	71.771	112.581	1.00	15.51	HIGL
ATOM	2291	CG2	VAL	283	20.117	73.692	114.128	1.00	15.34	HIGL
ATOM	2292	C	VAL	283	17.028	72.418	112.256	1.00	18.82	HIGL
ATOM	2293	O	VAL	283	16.972	72.504	111.034	1.00	19.69	HIGL
ATOM	2294	N	VAL	284	16.365	71.497	112.942	1.00	19.82	HIGL
ATOM	2295	CA	VAL	284	15.518	70.514	112.277	1.00	20.48	HIGL
ATOM	2296	CB	VAL	284	14.874	69.570	113.304	1.00	19.52	HIGL
ATOM	2297	CG1	VAL	284	14.015	68.549	112.595	1.00	17.63	HIGL
ATOM	2298	CG2	VAL	284	15.956	68.896	114.132	1.00	18.42	HIGL
ATOM	2299	C	VAL	284	14.405	71.185	111.452	1.00	21.90	HIGL
ATOM	2300	O	VAL	284	14.205	70.863	110.279	1.00	22.17	HIGL
ATOM	2301	N	SER	285	13.685	72.117	112.068	1.00	22.19	HIGL
ATOM	2302	CA	SER	285	12.609	72.820	111.380	1.00	22.67	HIGL
ATOM	2303	CB	SER	285	11.936	73.817	112.317	1.00	22.73	HIGL
ATOM	2304	OG	SER	285	11.369	73.153	113.426	1.00	26.28	HIGL
ATOM	2305	C	SER	285	13.112	73.571	110.160	1.00	23.02	HIGL
ATOM	2306	O	SER	285	12.447	73.585	109.126	1.00	23.75	HIGL
ATOM	2307	N	SER	286	14.279	74.203	110.282	1.00	23.31	HIGL
ATOM	2308	CA	SER	286	14.848	74.975	109.177	1.00	23.26	HIGL
ATOM	2309	CB	SER	286	16.231	75.524	109.545	1.00	22.79	HIGL
ATOM	2310	OG	SER	286	17.224	74.513	109.479	1.00	22.57	HIGL
ATOM	2311	C	SER	286	14.969	74.104	107.937	1.00	23.61	HIGL
ATOM	2312	O	SER	286	14.824	74.586	106.812	1.00	24.61	HIGL
ATOM	2313	N	VAL	287	15.227	72.817	108.150	1.00	22.94	HIGL
ATOM	2314	CA	VAL	287	15.371	71.876	107.051	1.00	22.39	HIGL
ATOM	2315	CB	VAL	287	16.126	70.596	107.494	1.00	21.12	HIGL
ATOM	2316	CG1	VAL	287	16.217	69.617	106.341	1.00	19.58	HIGL
ATOM	2317	CG2	VAL	287	17.500	70.952	107.989	1.00	19.96	HIGL
ATOM	2318	C	VAL	287	14.020	71.452	106.510	1.00	22.70	HIGL
ATOM	2319	O	VAL	287	13.129	71.075	107.266	1.00	22.82	HIGL
ATOM	2320	N	SER	288	13.857	71.530	105.197	1.00	23.99	HIGL
ATOM	2321	CA	SER	288	12.609	71.083	104.598	1.00	25.42	HIGL
ATOM	2322	CB	SER	288	12.661	71.204	103.077	1.00	25.83	HIGL
ATOM	2323	OG	SER	288	13.511	70.204	102.537	1.00	26.10	HIGL
ATOM	2324	C	SER	288	12.606	69.606	104.969	1.00	25.73	HIGL
ATOM	2325	O	SER	288	13.655	68.951	104.917	1.00	27.44	HIGL
ATOM	2326	N	LYS	289	11.456	69.073	105.342	1.00	24.12	HIGL
ATOM	2327	CA	LYS	289	11.400	67.668	105.716	1.00	23.58	HIGL
ATOM	2328	CB	LYS	289	12.074	66.790	104.657	1.00	23.46	HIGL
ATOM	2329	CG	LYS	289	11.229	66.659	103.407	1.00	24.42	HIGL
ATOM	2330	CD	LYS	289	11.870	65.809	102.341	1.00	24.82	HIGL
ATOM	2331	CE	LYS	289	10.907	65.640	101.180	1.00	25.59	HIGL
ATOM	2332	NZ	LYS	289	9.680	64.915	101.624	1.00	27.30	HIGL
ATOM	2333	C	LYS	289	12.010	67.422	107.085	1.00	22.49	HIGL
ATOM	2334	O	LYS	289	12.135	66.281	107.524	1.00	22.48	HIGL
ATOM	2335	N	GLY	290	12.415	68.498	107.749	1.00	21.72	HIGL
ATOM	2336	CA	GLY	290	12.913	68.353	109.102	1.00	21.35	HIGL
ATOM	2337	C	GLY	290	11.587	68.203	109.830	1.00	20.86	HIGL
ATOM	2338	O	GLY	290	10.805	69.154	109.888	1.00	21.50	HIGL
ATOM	2339	N	VAL	291	11.305	67.029	110.379	1.00	19.98	HIGL

Fig. 2 cont.

82/174

ATOM	2340	CA	VAL	291	10.008	66.845	111.013	1.00	19.00	HIGL
ATOM	2341	CB	VAL	291	9.168	65.836	110.206	1.00	18.98	HIGL
ATOM	2342	CG1	VAL	291	9.040	66.301	108.764	1.00	18.95	HIGL
ATOM	2343	CG2	VAL	291	9.816	64.471	110.258	1.00	19.17	HIGL
ATOM	2344	C	VAL	291	9.927	66.441	112.479	1.00	18.36	HIGL
ATOM	2345	O	VAL	291	8.834	66.482	113.055	1.00	18.16	HIGL
ATOM	2346	N	GLY	292	11.043	66.061	113.098	1.00	16.75	HIGL
ATOM	2347	CA	GLY	292	10.943	65.657	114.489	1.00	15.82	HIGL
ATOM	2348	C	GLY	292	12.114	65.858	115.421	1.00	15.38	HIGL
ATOM	2349	O	GLY	292	13.248	66.043	114.990	1.00	15.70	HIGL
ATOM	2350	N	LEU	293	11.822	65.825	116.719	1.00	15.28	HIGL
ATOM	2351	CA	LEU	293	12.842	65.963	117.757	1.00	14.98	HIGL
ATOM	2352	CB	LEU	293	13.059	67.436	118.131	1.00	14.38	HIGL
ATOM	2353	CG	LEU	293	14.200	67.697	119.131	1.00	14.97	HIGL
ATOM	2354	CD1	LEU	293	14.507	69.175	119.180	1.00	16.01	HIGL
ATOM	2355	CD2	LEU	293	13.824	67.197	120.524	1.00	15.85	HIGL
ATOM	2356	C	LEU	293	12.450	65.168	119.006	1.00	14.59	HIGL
ATOM	2357	O	LEU	293	11.367	65.356	119.559	1.00	14.50	HIGL
ATOM	2358	N	PHE	294	13.334	64.281	119.454	1.00	14.69	HIGL
ATOM	2359	CA	PHE	294	13.047	63.487	120.644	1.00	14.76	HIGL
ATOM	2360	CB	PHE	294	12.807	62.023	120.288	1.00	13.63	HIGL
ATOM	2361	CG	PHE	294	11.566	61.788	119.496	1.00	14.32	HIGL
ATOM	2362	CD1	PHE	294	11.557	61.983	118.116	1.00	14.42	HIGL
ATOM	2363	CD2	PHE	294	10.394	61.372	120.127	1.00	14.49	HIGL
ATOM	2364	CE1	PHE	294	10.395	61.763	117.372	1.00	14.13	HIGL
ATOM	2365	CE2	PHE	294	9.225	61.149	119.397	1.00	14.10	HIGL
ATOM	2366	CZ	PHE	294	9.224	61.344	118.017	1.00	14.44	HIGL
ATOM	2367	C	PHE	294	14.152	63.552	121.684	1.00	14.75	HIGL
ATOM	2368	O	PHE	294	15.312	63.249	121.394	1.00	15.47	HIGL
ATOM	2369	N	TYR	295	13.778	63.947	122.897	1.00	14.13	HIGL
ATOM	2370	CA	TYR	295	14.716	64.024	124.006	1.00	13.77	HIGL
ATOM	2371	CB	TYR	295	14.199	64.993	125.065	1.00	13.42	HIGL
ATOM	2372	CG	TYR	295	15.267	65.439	126.031	1.00	12.18	HIGL
ATOM	2373	CD1	TYR	295	15.972	66.628	125.825	1.00	11.42	HIGL
ATOM	2374	CE1	TYR	295	16.991	67.020	126.696	1.00	11.09	HIGL
ATOM	2375	CD2	TYR	295	15.602	64.656	127.131	1.00	10.29	HIGL
ATOM	2376	CE2	TYR	295	16.612	65.040	128.004	1.00	10.79	HIGL
ATOM	2377	CZ	TYR	295	17.304	66.217	127.782	1.00	10.57	HIGL
ATOM	2378	OH	TYR	295	18.317	66.569	128.640	1.00	9.73	HIGL
ATOM	2379	C	TYR	295	14.783	62.609	124.586	1.00	13.63	HIGL
ATOM	2380	O	TYR	295	13.747	61.970	124.793	1.00	13.59	HIGL
ATOM	2381	N	TRP	296	15.990	62.120	124.854	1.00	12.80	HIGL
ATOM	2382	CA	TRP	296	16.138	60.764	125.369	1.00	12.83	HIGL
ATOM	2383	CB	TRP	296	17.412	60.119	124.809	1.00	13.03	HIGL
ATOM	2384	CG	TRP	296	17.448	58.640	125.023	1.00	13.14	HIGL
ATOM	2385	CD2	TRP	296	18.316	57.918	125.900	1.00	13.55	HIGL
ATOM	2386	CE2	TRP	296	17.949	56.555	125.825	1.00	13.63	HIGL
ATOM	2387	CE3	TRP	296	19.369	58.289	126.747	1.00	14.63	HIGL
ATOM	2388	CD1	TRP	296	16.615	57.711	124.460	1.00	14.08	HIGL
ATOM	2389	NE1	TRP	296	16.909	56.456	124.939	1.00	13.47	HIGL
ATOM	2390	CZ2	TRP	296	18.596	55.562	126.567	1.00	13.78	HIGL
ATOM	2391	CZ3	TRP	296	20.017	57.297	127.487	1.00	13.79	HIGL
ATOM	2392	CH2	TRP	296	19.624	55.953	127.390	1.00	14.10	HIGL
ATOM	2393	C	TRP	296	16.135	60.615	126.887	1.00	12.44	HIGL
ATOM	2394	O	TRP	296	16.964	61.202	127.582	1.00	11.79	HIGL
ATOM	2395	N	GLU	297	15.190	59.811	127.376	1.00	12.90	HIGL
ATOM	2396	CA	GLU	297	15.029	59.502	128.797	1.00	12.94	HIGL
ATOM	2397	CB	GLU	297	16.061	58.455	129.199	1.00	13.78	HIGL
ATOM	2398	CG	GLU	297	15.780	57.087	128.595	1.00	14.60	HIGL
ATOM	2399	CD	GLU	297	14.616	56.394	129.271	1.00	14.61	HIGL
ATOM	2400	OE1	GLU	297	13.947	57.031	130.112	1.00	13.68	HIGL
ATOM	2401	OE2	GLU	297	14.370	55.211	128.962	1.00	15.38	HIGL
ATOM	2402	C	GLU	297	15.089	60.687	129.749	1.00	13.20	HIGL
ATOM	2403	O	GLU	297	15.911	60.728	130.665	1.00	11.51	HIGL
ATOM	2404	N	PRO	298	14.185	61.659	129.563	1.00	14.35	HIGL

Fig. 2 cont.

83/174

ATOM	2405	CD	PRO	298	13.050	61.665	128.618	1.00	14.17	HIGL
ATOM	2406	CA	PRO	298	14.150	62.846	130.416	1.00	14.61	HIGL
ATOM	2407	CB	PRO	298	13.123	63.733	129.719	1.00	14.43	HIGL
ATOM	2408	CG	PRO	298	12.143	62.727	129.206	1.00	14.48	HIGL
ATOM	2409	C	PRO	298	13.750	62.555	131.857	1.00	14.61	HIGL
ATOM	2410	O	PRO	298	14.058	63.339	132.754	1.00	15.09	HIGL
ATOM	2411	N	ALA	299	13.082	61.427	132.080	1.00	14.64	HIGL
ATOM	2412	CA	ALA	299	12.601	61.093	133.419	1.00	15.80	HIGL
ATOM	2413	CB	ALA	299	11.089	60.869	133.372	1.00	15.02	HIGL
ATOM	2414	C	ALA	299	13.264	59.930	134.140	1.00	16.15	HIGL
ATOM	2415	O	ALA	299	12.746	59.459	135.148	1.00	15.99	HIGL
ATOM	2416	N	TRP	300	14.410	59.479	133.646	1.00	17.81	HIGL
ATOM	2417	CA	TRP	300	15.115	58.361	134.269	1.00	18.35	HIGL
ATOM	2418	CB	TRP	300	16.003	57.672	133.238	1.00	17.62	HIGL
ATOM	2419	CG	TRP	300	16.304	56.260	133.577	1.00	17.58	HIGL
ATOM	2420	CD2	TRP	300	16.887	55.281	132.714	1.00	18.60	HIGL
ATOM	2421	CE2	TRP	300	17.067	54.105	133.479	1.00	19.31	HIGL
ATOM	2422	CE3	TRP	300	17.281	55.283	131.369	1.00	17.87	HIGL
ATOM	2423	CD1	TRP	300	16.151	55.659	134.790	1.00	18.39	HIGL
ATOM	2424	NE1	TRP	300	16.608	54.365	134.743	1.00	18.74	HIGL
ATOM	2425	CZ2	TRP	300	17.630	52.938	132.942	1.00	19.15	HIGL
ATOM	2426	CZ3	TRP	300	17.843	54.123	130.835	1.00	18.15	HIGL
ATOM	2427	CH2	TRP	300	18.011	52.969	131.621	1.00	18.86	HIGL
ATOM	2428	C	TRP	300	15.967	58.852	135.441	1.00	19.00	HIGL
ATOM	2429	O	TRP	300	17.197	58.757	135.418	1.00	19.92	HIGL
ATOM	2430	N	ILE	301	15.299	59.358	136.473	1.00	18.81	HIGL
ATOM	2431	CA	ILE	301	15.975	59.908	137.637	1.00	18.49	HIGL
ATOM	2432	CB	ILE	301	14.955	60.382	138.686	1.00	18.53	HIGL
ATOM	2433	CG2	ILE	301	14.008	61.385	138.058	1.00	17.80	HIGL
ATOM	2434	CG1	ILE	301	14.161	59.196	139.226	1.00	20.04	HIGL
ATOM	2435	CD1	ILE	301	13.109	59.586	140.250	1.00	21.03	HIGL
ATOM	2436	C	ILE	301	17.002	59.006	138.311	1.00	18.58	HIGL
ATOM	2437	O	ILE	301	17.991	59.499	138.851	1.00	18.75	HIGL
ATOM	2438	N	HIS	302	16.786	57.696	138.286	1.00	18.55	HIGL
ATOM	2439	CA	HIS	302	17.741	56.781	138.907	1.00	18.79	HIGL
ATOM	2440	CB	HIS	302	17.041	55.490	139.329	1.00	18.93	HIGL
ATOM	2441	CG	HIS	302	16.222	55.629	140.573	1.00	18.69	HIGL
ATOM	2442	CD2	HIS	302	16.287	56.523	141.587	1.00	17.82	HIGL
ATOM	2443	ND1	HIS	302	15.191	54.769	140.884	1.00	18.89	HIGL
ATOM	2444	CE1	HIS	302	14.653	55.129	142.036	1.00	17.89	HIGL
ATOM	2445	NE2	HIS	302	15.300	56.191	142.483	1.00	17.70	HIGL
ATOM	2446	C	HIS	302	18.925	56.453	137.997	1.00	19.20	HIGL
ATOM	2447	O	HIS	302	19.703	55.542	138.289	1.00	19.21	HIGL
ATOM	2448	N	ASN	303	19.057	57.203	136.904	1.00	19.05	HIGL
ATOM	2449	CA	ASN	303	20.140	57.013	135.944	1.00	19.03	HIGL
ATOM	2450	CB	ASN	303	19.737	55.956	134.909	1.00	19.73	HIGL
ATOM	2451	CG	ASN	303	20.845	55.653	133.920	1.00	20.38	HIGL
ATOM	2452	OD1	ASN	303	22.026	55.600	134.286	1.00	20.50	HIGL
ATOM	2453	ND2	ASN	303	20.474	55.436	132.662	1.00	19.58	HIGL
ATOM	2454	C	ASN	303	20.425	58.352	135.265	1.00	19.33	HIGL
ATOM	2455	O	ASN	303	20.706	58.413	134.068	1.00	19.13	HIGL
ATOM	2456	N	ALA	304	20.360	59.414	136.071	1.00	19.41	HIGL
ATOM	2457	CA	ALA	304	20.562	60.804	135.654	1.00	18.77	HIGL
ATOM	2458	CB	ALA	304	20.840	61.662	136.876	1.00	17.04	HIGL
ATOM	2459	C	ALA	304	21.603	61.102	134.584	1.00	18.84	HIGL
ATOM	2460	O	ALA	304	21.340	61.883	133.671	1.00	19.33	HIGL
ATOM	2461	N	ASN	305	22.784	60.508	134.692	1.00	19.13	HIGL
ATOM	2462	CA	ASN	305	23.826	60.761	133.704	1.00	18.89	HIGL
ATOM	2463	CB	ASN	305	25.162	60.163	134.158	1.00	20.60	HIGL
ATOM	2464	CG	ASN	305	25.115	58.665	134.292	1.00	21.86	HIGL
ATOM	2465	OD1	ASN	305	24.345	58.119	135.085	1.00	23.48	HIGL
ATOM	2466	ND2	ASN	305	25.945	57.984	133.516	1.00	23.52	HIGL
ATOM	2467	C	ASN	305	23.448	60.207	132.343	1.00	18.26	HIGL
ATOM	2468	O	ASN	305	23.993	60.628	131.331	1.00	19.25	HIGL
ATOM	2469	N	LEU	306	22.507	59.269	132.323	1.00	17.83	HIGL

Fig. 2 cont.

84/174

ATOM	2470	CA	LEU	306	22.035	58.657	131.080	1.00	17.26	HIGL
ATOM	2471	CB	LEU	306	21.217	59.670	130.270	1.00	16.18	HIGL
ATOM	2472	CG	LEU	306	19.907	60.128	130.937	1.00	16.97	HIGL
ATOM	2473	CD1	LEU	306	19.284	61.278	130.161	1.00	15.17	HIGL
ATOM	2474	CD2	LEU	306	18.937	58.954	131.024	1.00	16.01	HIGL
ATOM	2475	C	LEU	306	23.156	58.076	130.216	1.00	17.50	HIGL
ATOM	2476	O	LEU	306	23.137	58.195	128.988	1.00	17.52	HIGL
ATOM	2477	N	GLY	307	24.131	57.450	130.870	1.00	17.26	HIGL
ATOM	2478	CA	GLY	307	25.235	56.836	130.159	1.00	16.70	HIGL
ATOM	2479	C	GLY	307	26.294	57.773	129.616	1.00	16.64	HIGL
ATOM	2480	O	GLY	307	27.191	57.333	128.901	1.00	16.25	HIGL
ATOM	2481	N	SER	308	26.204	59.056	129.950	1.00	16.62	HIGL
ATOM	2482	CA	SER	308	27.181	60.032	129.471	1.00	17.50	HIGL
ATOM	2483	CB	SER	308	26.477	61.300	128.987	1.00	17.40	HIGL
ATOM	2484	OG	SER	308	26.026	62.065	130.091	1.00	18.14	HIGL
ATOM	2485	C	SER	308	28.159	60.402	130.582	1.00	17.77	HIGL
ATOM	2486	O	SER	308	28.059	59.905	131.712	1.00	18.46	HIGL
ATOM	2487	N	SER	309	29.104	61.278	130.265	1.00	17.09	HIGL
ATOM	2488	CA	SER	309	30.074	61.693	131.263	1.00	17.48	HIGL
ATOM	2489	CB	SER	309	31.384	62.138	130.599	1.00	15.98	HIGL
ATOM	2490	OG	SER	309	31.196	63.287	129.794	1.00	15.84	HIGL
ATOM	2491	C	SER	309	29.485	62.818	132.118	1.00	17.77	HIGL
ATOM	2492	O	SER	309	30.100	63.268	133.084	1.00	17.93	HIGL
ATOM	2493	N	CYS	310	28.289	63.273	131.763	1.00	18.10	HIGL
ATOM	2494	CA	CYS	310	27.641	64.323	132.541	1.00	18.95	HIGL
ATOM	2495	C	CYS	310	26.881	63.668	133.695	1.00	18.10	HIGL
ATOM	2496	O	CYS	310	26.437	62.528	133.583	1.00	18.94	HIGL
ATOM	2497	CB	CYS	310	26.686	65.139	131.670	1.00	19.41	HIGL
ATOM	2498	SG	CYS	310	27.452	66.412	130.600	1.00	24.23	HIGL
ATOM	2499	N	ALA	311	26.733	64.392	134.798	1.00	16.72	HIGL
ATOM	2500	CA	ALA	311	26.061	63.873	135.986	1.00	15.09	HIGL
ATOM	2501	CB	ALA	311	26.451	64.713	137.187	1.00	13.34	HIGL
ATOM	2502	C	ALA	311	24.539	63.768	135.917	1.00	14.53	HIGL
ATOM	2503	O	ALA	311	23.959	62.805	136.416	1.00	14.36	HIGL
ATOM	2504	N	ASP	312	23.893	64.755	135.308	1.00	14.02	HIGL
ATOM	2505	CA	ASP	312	22.437	64.767	135.233	1.00	14.14	HIGL
ATOM	2506	CB	ASP	312	21.888	65.569	136.414	1.00	13.88	HIGL
ATOM	2507	CG	ASP	312	20.417	65.338	136.647	1.00	15.05	HIGL
ATOM	2508	OD1	ASP	312	19.703	64.943	135.692	1.00	16.00	HIGL
ATOM	2509	OD2	ASP	312	19.973	65.562	137.795	1.00	14.74	HIGL
ATOM	2510	C	ASP	312	21.910	65.376	133.932	1.00	14.14	HIGL
ATOM	2511	O	ASP	312	22.085	66.571	133.690	1.00	13.77	HIGL
ATOM	2512	N	ASN	313	21.260	64.555	133.108	1.00	14.50	HIGL
ATOM	2513	CA	ASN	313	20.684	65.016	131.845	1.00	15.03	HIGL
ATOM	2514	CB	ASN	313	21.177	64.160	130.672	1.00	16.08	HIGL
ATOM	2515	CG	ASN	313	22.633	64.403	130.337	1.00	18.13	HIGL
ATOM	2516	OD1	ASN	313	23.069	65.544	130.228	1.00	19.71	HIGL
ATOM	2517	ND2	ASN	313	23.391	63.326	130.159	1.00	17.96	HIGL
ATOM	2518	C	ASN	313	19.159	64.947	131.889	1.00	14.73	HIGL
ATOM	2519	O	ASN	313	18.491	65.155	130.881	1.00	14.78	HIGL
ATOM	2520	N	THR	314	18.608	64.649	133.057	1.00	15.17	HIGL
ATOM	2521	CA	THR	314	17.160	64.535	133.207	1.00	16.32	HIGL
ATOM	2522	CB	THR	314	16.794	63.799	134.499	1.00	16.08	HIGL
ATOM	2523	OG1	THR	314	17.198	64.596	135.619	1.00	16.57	HIGL
ATOM	2524	CG2	THR	314	17.497	62.452	134.563	1.00	15.34	HIGL
ATOM	2525	C	THR	314	16.444	65.878	133.237	1.00	16.22	HIGL
ATOM	2526	O	THR	314	17.033	66.908	133.551	1.00	17.07	HIGL
ATOM	2527	N	MET	315	15.161	65.851	132.911	1.00	16.05	HIGL
ATOM	2528	CA	MET	315	14.352	67.055	132.929	1.00	17.30	HIGL
ATOM	2529	CB	MET	315	13.588	67.205	131.613	1.00	17.97	HIGL
ATOM	2530	CG	MET	315	14.505	67.282	130.405	1.00	18.13	HIGL
ATOM	2531	SD	MET	315	13.637	67.606	128.894	1.00	18.76	HIGL
ATOM	2532	CE	MET	315	13.387	69.339	129.091	1.00	19.34	HIGL
ATOM	2533	C	MET	315	13.393	66.933	134.104	1.00	18.03	HIGL
ATOM	2534	O	MET	315	12.283	67.467	134.103	1.00	17.72	HIGL

Fig. 2 cont.

85/174

ATOM	2535	N	PHE	316	13.844	66.195	135.108	1.00	18.72	HIGL
ATOM	2536	CA	PHE	316	13.075	66.002	136.316	1.00	19.71	HIGL
ATOM	2537	CB	PHE	316	12.431	64.619	136.349	1.00	20.13	HIGL
ATOM	2538	CG	PHE	316	11.179	64.517	135.541	1.00	20.75	HIGL
ATOM	2539	CD1	PHE	316	11.232	64.450	134.153	1.00	21.09	HIGL
ATOM	2540	CD2	PHE	316	9.942	64.492	136.167	1.00	19.49	HIGL
ATOM	2541	CE1	PHE	316	10.065	64.359	133.402	1.00	20.74	HIGL
ATOM	2542	CE2	PHE	316	8.776	64.401	135.429	1.00	19.68	HIGL
ATOM	2543	CZ	PHE	316	8.836	64.335	134.041	1.00	20.74	HIGL
ATOM	2544	C	PHE	316	13.926	66.175	137.561	1.00	20.14	HIGL
ATOM	2545	O	PHE	316	15.155	66.134	137.528	1.00	21.09	HIGL
ATOM	2546	N	THR	317	13.232	66.386	138.662	1.00	20.18	HIGL
ATOM	2547	CA	THR	317	13.836	66.550	139.960	1.00	20.01	HIGL
ATOM	2548	CB	THR	317	12.783	67.140	140.933	1.00	19.47	HIGL
ATOM	2549	OG1	THR	317	13.102	68.508	141.196	1.00	20.10	HIGL
ATOM	2550	CG2	THR	317	12.710	66.363	142.215	1.00	18.19	HIGL
ATOM	2551	C	THR	317	14.271	65.161	140.408	1.00	20.33	HIGL
ATOM	2552	O	THR	317	13.739	64.155	139.939	1.00	20.58	HIGL
ATOM	2553	N	PRO	318	15.265	65.087	141.299	1.00	20.32	HIGL
ATOM	2554	CD	PRO	318	16.162	66.175	141.728	1.00	20.23	HIGL
ATOM	2555	CA	PRO	318	15.740	63.793	141.791	1.00	19.64	HIGL
ATOM	2556	CB	PRO	318	16.859	64.187	142.743	1.00	19.58	HIGL
ATOM	2557	CG	PRO	318	17.416	65.425	142.093	1.00	19.55	HIGL
ATOM	2558	C	PRO	318	14.615	63.044	142.498	1.00	19.76	HIGL
ATOM	2559	O	PRO	318	14.709	61.841	142.739	1.00	19.67	HIGL
ATOM	2560	N	SER	319	13.551	63.772	142.827	1.00	19.98	HIGL
ATOM	2561	CA	SER	319	12.403	63.195	143.504	1.00	20.20	HIGL
ATOM	2562	CB	SER	319	11.887	64.147	144.578	1.00	20.64	HIGL
ATOM	2563	OG	SER	319	11.025	65.119	144.016	1.00	23.02	HIGL
ATOM	2564	C	SER	319	11.291	62.889	142.504	1.00	20.42	HIGL
ATOM	2565	O	SER	319	10.263	62.305	142.861	1.00	20.64	HIGL
ATOM	2566	N	GLY	320	11.489	63.298	141.254	1.00	20.38	HIGL
ATOM	2567	CA	GLY	320	10.505	63.006	140.225	1.00	19.64	HIGL
ATOM	2568	C	GLY	320	9.585	64.119	139.765	1.00	19.52	HIGL
ATOM	2569	O	GLY	320	8.657	63.862	138.996	1.00	19.02	HIGL
ATOM	2570	N	GLN	321	9.833	65.347	140.213	1.00	18.90	HIGL
ATOM	2571	CA	GLN	321	8.991	66.475	139.824	1.00	19.06	HIGL
ATOM	2572	CB	GLN	321	8.940	67.520	140.948	1.00	20.13	HIGL
ATOM	2573	CG	GLN	321	8.219	68.811	140.564	1.00	22.26	HIGL
ATOM	2574	CD	GLN	321	7.946	69.703	141.762	1.00	23.01	HIGL
ATOM	2575	OE1	GLN	321	7.346	69.264	142.748	1.00	25.05	HIGL
ATOM	2576	NE2	GLN	321	8.377	70.958	141.682	1.00	20.98	HIGL
ATOM	2577	C	GLN	321	9.477	67.129	138.540	1.00	18.11	HIGL
ATOM	2578	O	GLN	321	10.639	67.520	138.428	1.00	17.69	HIGL
ATOM	2579	N	ALA	322	8.578	67.263	137.574	1.00	17.71	HIGL
ATOM	2580	CA	ALA	322	8.938	67.857	136.293	1.00	17.37	HIGL
ATOM	2581	CB	ALA	322	7.725	67.942	135.387	1.00	16.48	HIGL
ATOM	2582	C	ALA	322	9.546	69.231	136.466	1.00	17.45	HIGL
ATOM	2583	O	ALA	322	9.078	70.041	137.268	1.00	19.09	HIGL
ATOM	2584	N	LEU	323	10.601	69.476	135.706	1.00	17.15	HIGL
ATOM	2585	CA	LEU	323	11.305	70.743	135.720	1.00	16.94	HIGL
ATOM	2586	CB	LEU	323	12.755	70.512	135.299	1.00	16.28	HIGL
ATOM	2587	CG	LEU	323	13.901	70.773	136.279	1.00	15.82	HIGL
ATOM	2588	CD1	LEU	323	13.500	70.423	137.707	1.00	14.61	HIGL
ATOM	2589	CD2	LEU	323	15.113	69.964	135.823	1.00	14.44	HIGL
ATOM	2590	C	LEU	323	10.603	71.677	134.731	1.00	17.93	HIGL
ATOM	2591	O	LEU	323	9.883	71.225	133.838	1.00	16.70	HIGL
ATOM	2592	N	SER	324	10.811	72.980	134.893	1.00	18.92	HIGL
ATOM	2593	CA	SER	324	10.186	73.966	134.018	1.00	19.03	HIGL
ATOM	2594	CB	SER	324	10.663	75.370	134.383	1.00	19.54	HIGL
ATOM	2595	OG	SER	324	12.069	75.478	134.241	1.00	20.56	HIGL
ATOM	2596	C	SER	324	10.496	73.707	132.555	1.00	19.19	HIGL
ATOM	2597	O	SER	324	9.628	73.843	131.697	1.00	20.39	HIGL
ATOM	2598	N	SER	325	11.743	73.338	132.282	1.00	19.12	HIGL
ATOM	2599	CA	SER	325	12.217	73.073	130.927	1.00	18.61	HIGL

Fig. 2 cont.

86/174

ATOM	2600	CB	SER	325	13.681	72.639	130.980	1.00	18.82	HIGL
ATOM	2601	OG	SER	325	13.838	71.516	131.828	1.00	18.06	HIGL
ATOM	2602	C	SER	325	11.414	72.047	130.132	1.00	18.61	HIGL
ATOM	2603	O	SER	325	11.458	72.036	128.905	1.00	18.45	HIGL
ATOM	2604	N	LEU	326	10.680	71.184	130.820	1.00	19.28	HIGL
ATOM	2605	CA	LEU	326	9.893	70.167	130.132	1.00	19.85	HIGL
ATOM	2606	CB	LEU	326	9.212	69.243	131.145	1.00	20.13	HIGL
ATOM	2607	CG	LEU	326	9.112	67.733	130.862	1.00	22.13	HIGL
ATOM	2608	CD1	LEU	326	7.849	67.179	131.542	1.00	20.56	HIGL
ATOM	2609	CD2	LEU	326	9.063	67.453	129.364	1.00	21.71	HIGL
ATOM	2610	C	LEU	326	8.822	70.787	129.230	1.00	20.36	HIGL
ATOM	2611	O	LEU	326	8.415	70.187	128.233	1.00	19.41	HIGL
ATOM	2612	N	SER	327	8.363	71.986	129.580	1.00	20.97	HIGL
ATOM	2613	CA	SER	327	7.317	72.642	128.803	1.00	21.71	HIGL
ATOM	2614	CB	SER	327	6.595	73.684	129.653	1.00	21.54	HIGL
ATOM	2615	OG	SER	327	7.439	74.785	129.921	1.00	23.10	HIGL
ATOM	2616	C	SER	327	7.829	73.301	127.533	1.00	22.18	HIGL
ATOM	2617	O	SER	327	7.100	74.056	126.887	1.00	23.13	HIGL
ATOM	2618	N	VAL	328	9.080	73.032	127.180	1.00	21.90	HIGL
ATOM	2619	CA	VAL	328	9.651	73.588	125.959	1.00	22.31	HIGL
ATOM	2620	CB	VAL	328	11.188	73.333	125.873	1.00	22.21	HIGL
ATOM	2621	CG1	VAL	328	11.483	71.843	125.809	1.00	21.74	HIGL
ATOM	2622	CG2	VAL	328	11.759	74.026	124.657	1.00	21.78	HIGL
ATOM	2623	C	VAL	328	8.958	72.917	124.764	1.00	22.65	HIGL
ATOM	2624	O	VAL	328	8.973	73.429	123.645	1.00	22.63	HIGL
ATOM	2625	N	PHE	329	8.338	71.771	125.013	1.00	22.73	HIGL
ATOM	2626	CA	PHE	329	7.654	71.048	123.959	1.00	23.91	HIGL
ATOM	2627	CB	PHE	329	7.268	69.658	124.454	1.00	23.67	HIGL
ATOM	2628	CG	PHE	329	8.440	68.723	124.557	1.00	24.39	HIGL
ATOM	2629	CD1	PHE	329	9.067	68.252	123.409	1.00	24.10	HIGL
ATOM	2630	CD2	PHE	329	8.949	68.349	125.796	1.00	23.95	HIGL
ATOM	2631	CE1	PHE	329	10.185	67.424	123.491	1.00	24.86	HIGL
ATOM	2632	CE2	PHE	329	10.063	67.524	125.887	1.00	24.79	HIGL
ATOM	2633	CZ	PHE	329	10.686	67.060	124.729	1.00	24.99	HIGL
ATOM	2634	C	PHE	329	6.446	71.806	123.420	1.00	24.94	HIGL
ATOM	2635	O	PHE	329	5.885	71.438	122.384	1.00	24.54	HIGL
ATOM	2636	N	HIS	330	6.053	72.867	124.123	1.00	25.53	HIGL
ATOM	2637	CA	HIS	330	4.944	73.706	123.677	1.00	25.92	HIGL
ATOM	2638	CB	HIS	330	4.376	74.554	124.828	1.00	25.05	HIGL
ATOM	2639	CG	HIS	330	3.507	73.795	125.786	1.00	23.98	HIGL
ATOM	2640	CD2	HIS	330	3.511	73.739	127.139	1.00	23.72	HIGL
ATOM	2641	ND1	HIS	330	2.451	73.010	125.377	1.00	23.63	HIGL
ATOM	2642	CE1	HIS	330	1.843	72.503	126.434	1.00	22.96	HIGL
ATOM	2643	NE2	HIS	330	2.467	72.931	127.517	1.00	23.30	HIGL
ATOM	2644	C	HIS	330	5.488	74.650	122.601	1.00	26.65	HIGL
ATOM	2645	O	HIS	330	4.891	74.806	121.540	1.00	27.30	HIGL
ATOM	2646	N	ARG	331	6.632	75.267	122.888	1.00	27.80	HIGL
ATOM	2647	CA	ARG	331	7.273	76.214	121.976	1.00	28.68	HIGL
ATOM	2648	CB	ARG	331	8.405	76.953	122.698	1.00	31.32	HIGL
ATOM	2649	CG	ARG	331	7.935	78.120	123.555	1.00	35.13	HIGL
ATOM	2650	CD	ARG	331	9.101	78.976	124.057	1.00	37.60	HIGL
ATOM	2651	NE	ARG	331	9.862	78.322	125.116	1.00	39.32	HIGL
ATOM	2652	CZ	ARG	331	9.311	77.800	126.208	1.00	41.08	HIGL
ATOM	2653	NH1	ARG	331	7.994	77.854	126.382	1.00	41.70	HIGL
ATOM	2654	NH2	ARG	331	10.075	77.233	127.133	1.00	41.35	HIGL
ATOM	2655	C	ARG	331	7.821	75.668	120.661	1.00	28.01	HIGL
ATOM	2656	O	ARG	331	8.119	76.440	119.753	1.00	28.33	HIGL
ATOM	2657	N	ILE	332	7.966	74.355	120.545	1.00	27.15	HIGL
ATOM	2658	CA	ILE	332	8.503	73.790	119.313	1.00	25.82	HIGL
ATOM	2659	CB	ILE	332	9.717	72.876	119.596	1.00	24.07	HIGL
ATOM	2660	CG2	ILE	332	10.747	73.636	120.419	1.00	22.61	HIGL
ATOM	2661	CG1	ILE	332	9.262	71.611	120.331	1.00	23.55	HIGL
ATOM	2662	CD1	ILE	332	10.328	70.559	120.487	1.00	21.73	HIGL
ATOM	2663	C	ILE	332	7.463	72.999	118.534	1.00	26.35	HIGL
ATOM	2664	O	ILE	332	7.659	72.716	117.351	1.00	27.46	HIGL

Fig. 2 cont.

08 APR. 2003

87/174

PVS

HEADER					AAGL					AAGL
ATOM	1	CB	ALA	1	30.233	36.166	100.975	1.00	33.89	AAGL
ATOM	2	C	ALA	1	30.173	35.826	103.455	1.00	33.23	AAGL
ATOM	3	O	ALA	1	30.978	35.045	103.960	1.00	32.69	AAGL
ATOM	4	N	ALA	1	32.066	36.993	102.404	1.00	32.99	AAGL
ATOM	5	CA	ALA	1	30.595	36.767	102.330	1.00	33.73	AAGL
ATOM	6	N	LEU	2	28.909	35.906	103.856	1.00	31.18	AAGL
ATOM	7	CA	LEU	2	28.412	35.052	104.926	1.00	29.30	AAGL
ATOM	8	CB	LEU	2	27.023	35.510	105.362	1.00	29.79	AAGL
ATOM	9	CG	LEU	2	26.868	36.944	105.864	1.00	30.10	AAGL
ATOM	10	CD1	LEU	2	25.382	37.292	105.912	1.00	32.47	AAGL
ATOM	11	CD2	LEU	2	27.511	37.098	107.236	1.00	30.25	AAGL
ATOM	12	C	LEU	2	28.340	33.612	104.451	1.00	28.19	AAGL
ATOM	13	O	LEU	2	28.258	33.351	103.250	1.00	28.93	AAGL
ATOM	14	N	THR	3	28.370	32.679	105.396	1.00	27.70	AAGL
ATOM	15	CA	THR	3	28.304	31.267	105.071	1.00	27.25	AAGL
ATOM	16	CB	THR	3	28.401	30.410	106.349	1.00	28.42	AAGL
ATOM	17	OG1	THR	3	29.650	30.681	107.001	1.00	28.17	AAGL
ATOM	18	CG2	THR	3	28.327	28.920	106.010	1.00	27.90	AAGL
ATOM	19	C	THR	3	27.000	30.971	104.343	1.00	26.98	AAGL
ATOM	20	O	THR	3	26.965	30.159	103.416	1.00	26.10	AAGL
ATOM	21	N	TYR	4	25.931	31.650	104.756	1.00	26.84	AAGL
ATOM	22	CA	TYR	4	24.623	31.465	104.137	1.00	24.81	AAGL
ATOM	23	CB	TYR	4	23.665	30.721	105.079	1.00	25.74	AAGL
ATOM	24	CG	TYR	4	24.137	29.377	105.602	1.00	25.74	AAGL
ATOM	25	CD1	TYR	4	24.318	28.288	104.746	1.00	26.33	AAGL
ATOM	26	CE1	TYR	4	24.692	27.034	105.247	1.00	27.71	AAGL
ATOM	27	CD2	TYR	4	24.349	29.182	106.965	1.00	25.74	AAGL
ATOM	28	CE2	TYR	4	24.724	27.940	107.473	1.00	26.87	AAGL
ATOM	29	CZ	TYR	4	24.891	26.870	106.609	1.00	26.22	AAGL
ATOM	30	OH	TYR	4	25.248	25.646	107.118	1.00	29.24	AAGL
ATOM	31	C	TYR	4	23.977	32.803	103.787	1.00	24.69	AAGL
ATOM	32	O	TYR	4	23.914	33.712	104.619	1.00	24.65	AAGL
ATOM	33	N	ARG	5	23.515	32.919	102.549	1.00	23.45	AAGL
ATOM	34	CA	ARG	5	22.801	34.103	102.069	1.00	25.24	AAGL
ATOM	35	CB	ARG	5	23.551	34.823	100.939	1.00	29.22	AAGL
ATOM	36	CG	ARG	5	24.781	35.609	101.366	1.00	29.88	AAGL
ATOM	37	CD	ARG	5	26.042	34.797	101.168	1.00	29.48	AAGL
ATOM	38	NE	ARG	5	26.159	34.336	99.792	1.00	29.78	AAGL
ATOM	39	CZ	ARG	5	27.061	33.454	99.373	1.00	27.81	AAGL
ATOM	40	NH1	ARG	5	27.934	32.940	100.225	1.00	27.49	AAGL
ATOM	41	NH2	ARG	5	27.068	33.068	98.104	1.00	29.30	AAGL
ATOM	42	C	ARG	5	21.554	33.439	101.507	1.00	25.34	AAGL
ATOM	43	O	ARG	5	21.547	32.962	100.371	1.00	23.77	AAGL
ATOM	44	N	GLY	6	20.502	33.381	102.308	1.00	24.34	AAGL
ATOM	45	CA	GLY	6	19.321	32.694	101.837	1.00	21.41	AAGL
ATOM	46	C	GLY	6	18.031	33.457	101.755	1.00	22.93	AAGL
ATOM	47	O	GLY	6	17.957	34.649	102.053	1.00	21.36	AAGL
ATOM	48	N	ALA	7	17.008	32.727	101.330	1.00	21.72	AAGL
ATOM	49	CA	ALA	7	15.669	33.248	101.182	1.00	22.02	AAGL
ATOM	50	CB	ALA	7	15.481	33.797	99.780	1.00	22.89	AAGL
ATOM	51	C	ALA	7	14.689	32.110	101.422	1.00	21.79	AAGL
ATOM	52	O	ALA	7	14.973	30.956	101.101	1.00	23.27	AAGL
ATOM	53	N	ASP	8	13.548	32.435	102.014	1.00	20.87	AAGL
ATOM	54	CA	ASP	8	12.501	31.448	102.247	1.00	21.47	AAGL
ATOM	55	CB	ASP	8	11.854	31.650	103.625	1.00	20.38	AAGL
ATOM	56	CG	ASP	8	10.772	30.617	103.923	1.00	20.93	AAGL
ATOM	57	OD1	ASP	8	9.920	30.363	103.044	1.00	20.43	AAGL
ATOM	58	OD2	ASP	8	10.768	30.069	105.048	1.00	19.51	AAGL
ATOM	59	C	ASP	8	11.482	31.736	101.153	1.00	19.96	AAGL
ATOM	60	O	ASP	8	10.773	32.738	101.205	1.00	21.04	AAGL
ATOM	61	N	ILE	9	11.424	30.870	100.149	1.00	20.91	AAGL
ATOM	62	CA	ILE	9	10.490	31.065	99.049	1.00	21.73	AAGL
ATOM	63	CB	ILE	9	11.234	31.102	97.689	1.00	21.80	AAGL
ATOM	64	CG2	ILE	9	12.174	32.300	97.648	1.00	23.18	AAGL
ATOM	65	CG1	ILE	9	12.015	29.807	97.479	1.00	22.70	AAGL

Fig. 3

88/174

PVS

ATOM	66	CD1	ILE	9	12.626	29.683	96.085	1.00	25.10	AAGL
ATOM	67	C	ILE	9	9.452	29.945	99.038	1.00	23.69	AAGL
ATOM	68	O	ILE	9	9.018	29.490	97.984	1.00	22.97	AAGL
ATOM	69	N	SER	10	9.059	29.511	100.232	1.00	22.26	AAGL
ATOM	70	CA	SER	10	8.080	28.441	100.377	1.00	22.83	AAGL
ATOM	71	CB	SER	10	7.658	28.325	101.840	1.00	20.03	AAGL
ATOM	72	OG	SER	10	8.782	28.078	102.658	1.00	21.43	AAGL
ATOM	73	C	SER	10	6.833	28.617	99.508	1.00	22.20	AAGL
ATOM	74	O	SER	10	6.286	27.649	98.995	1.00	24.50	AAGL
ATOM	75	N	SER	11	6.388	29.855	99.347	1.00	23.05	AAGL
ATOM	76	CA	SER	11	5.198	30.148	98.563	1.00	24.59	AAGL
ATOM	77	CB	SER	11	4.784	31.598	98.792	1.00	26.58	AAGL
ATOM	78	OG	SER	11	5.775	32.473	98.275	1.00	26.05	AAGL
ATOM	79	C	SER	11	5.347	29.935	97.057	1.00	25.49	AAGL
ATOM	80	O	SER	11	4.351	29.913	96.338	1.00	25.69	AAGL
ATOM	81	N	LEU	12	6.578	29.781	96.583	1.00	26.51	AAGL
ATOM	82	CA	LEU	12	6.817	29.637	95.149	1.00	25.87	AAGL
ATOM	83	CB	LEU	12	8.237	29.143	94.884	1.00	26.84	AAGL
ATOM	84	OG	LEU	12	8.609	29.025	93.398	1.00	26.26	AAGL
ATOM	85	CD1	LEU	12	8.307	30.324	92.665	1.00	26.19	AAGL
ATOM	86	CD2	LEU	12	10.078	28.685	93.273	1.00	28.47	AAGL
ATOM	87	C	LEU	12	5.844	28.768	94.362	1.00	28.42	AAGL
ATOM	88	O	LEU	12	5.181	29.257	93.447	1.00	28.84	AAGL
ATOM	89	N	LEU	13	5.758	27.487	94.701	1.00	28.60	AAGL
ATOM	90	CA	LEU	13	4.879	26.590	93.963	1.00	30.83	AAGL
ATOM	91	CB	LEU	13	4.997	25.164	94.514	1.00	30.59	AAGL
ATOM	92	CG	LEU	13	6.443	24.657	94.640	1.00	29.90	AAGL
ATOM	93	CD1	LEU	13	6.441	23.200	95.044	1.00	30.84	AAGL
ATOM	94	CD2	LEU	13	7.179	24.821	93.315	1.00	31.95	AAGL
ATOM	95	C	LEU	13	3.430	27.062	93.967	1.00	31.99	AAGL
ATOM	96	O	LEU	13	2.703	26.844	93.001	1.00	33.62	AAGL
ATOM	97	N	LEU	14	3.008	27.725	95.038	1.00	33.18	AAGL
ATOM	98	CA	LEU	14	1.639	28.226	95.106	1.00	33.64	AAGL
ATOM	99	CB	LEU	14	1.289	28.683	96.523	1.00	34.87	AAGL
ATOM	100	CG	LEU	14	0.959	27.561	97.502	1.00	35.78	AAGL
ATOM	101	CD1	LEU	14	0.492	28.145	98.828	1.00	36.41	AAGL
ATOM	102	CD2	LEU	14	-0.137	26.693	96.895	1.00	37.20	AAGL
ATOM	103	C	LEU	14	1.423	29.385	94.141	1.00	34.86	AAGL
ATOM	104	O	LEU	14	0.352	29.522	93.551	1.00	33.97	AAGL
ATOM	105	N	LEU	15	2.443	30.218	93.978	1.00	34.48	AAGL
ATOM	106	CA	LEU	15	2.344	31.359	93.080	1.00	35.10	AAGL
ATOM	107	CB	LEU	15	3.428	32.390	93.415	1.00	35.52	AAGL
ATOM	108	CG	LEU	15	3.232	33.227	94.696	1.00	37.21	AAGL
ATOM	109	CD1	LEU	15	2.912	32.357	95.879	1.00	37.69	AAGL
ATOM	110	CD2	LEU	15	4.496	34.018	94.975	1.00	35.91	AAGL
ATOM	111	C	LEU	15	2.458	30.904	91.624	1.00	35.48	AAGL
ATOM	112	O	LEU	15	1.647	31.306	90.782	1.00	35.67	AAGL
ATOM	113	N	GLU	16	3.449	30.065	91.329	1.00	35.68	AAGL
ATOM	114	CA	GLU	16	3.619	29.561	89.966	1.00	37.14	AAGL
ATOM	115	CB	GLU	16	4.747	28.527	89.890	1.00	35.01	AAGL
ATOM	116	CG	GLU	16	6.159	29.083	90.020	1.00	34.68	AAGL
ATOM	117	CD	GLU	16	7.214	27.993	89.905	1.00	35.45	AAGL
ATOM	118	OE1	GLU	16	6.928	26.849	90.317	1.00	35.57	AAGL
ATOM	119	OE2	GLU	16	8.336	28.271	89.419	1.00	35.12	AAGL
ATOM	120	C	GLU	16	2.317	28.913	89.527	1.00	39.70	AAGL
ATOM	121	O	GLU	16	1.846	29.139	88.411	1.00	40.81	AAGL
ATOM	122	N	ASP	17	1.727	28.112	90.411	1.00	41.41	AAGL
ATOM	123	CA	ASP	17	0.470	27.444	90.099	1.00	44.13	AAGL
ATOM	124	CB	ASP	17	0.029	26.557	91.262	1.00	44.94	AAGL
ATOM	125	CG	ASP	17	0.510	25.127	91.117	1.00	47.20	AAGL
ATOM	126	OD1	ASP	17	0.423	24.359	92.103	1.00	47.97	AAGL
ATOM	127	OD2	ASP	17	0.959	24.757	90.006	1.00	50.11	AAGL
ATOM	128	C	ASP	17	-0.625	28.447	89.771	1.00	45.54	AAGL
ATOM	129	O	ASP	17	-1.458	28.195	88.896	1.00	47.39	AAGL
ATOM	130	N	GLU	18	-0.629	29.581	90.471	1.00	45.43	AAGL
ATOM	131	CA	GLU	18	-1.625	30.617	90.234	1.00	47.08	AAGL

Fig. 3 cont.

89/174

ATOM	132	CB	GLU	18	-1.762	31.537	91.458	1.00	49.00	AAGL
ATOM	133	CG	GLU	18	-2.526	30.900	92.622	1.00	52.65	AAGL
ATOM	134	CD	GLU	18	-2.530	31.755	93.890	1.00	55.02	AAGL
ATOM	135	OE1	GLU	18	-3.112	31.305	94.911	1.00	55.65	AAGL
ATOM	136	OE2	GLU	18	-1.953	32.870	93.870	1.00	56.34	AAGL
ATOM	137	C	GLU	18	-1.267	31.432	88.994	1.00	46.48	AAGL
ATOM	138	O	GLU	18	-1.845	32.492	88.743	1.00	46.57	AAGL
ATOM	139	N	GLY	19	-0.307	30.929	88.223	1.00	45.75	AAGL
ATOM	140	CA	GLY	19	0.091	31.609	87.006	1.00	45.53	AAGL
ATOM	141	C	GLY	19	1.245	32.588	87.113	1.00	45.29	AAGL
ATOM	142	O	GLY	19	1.636	33.185	86.113	1.00	44.87	AAGL
ATOM	143	N	TYR	20	1.802	32.758	88.309	1.00	44.55	AAGL
ATOM	144	CA	TYR	20	2.911	33.685	88.497	1.00	44.04	AAGL
ATOM	145	CB	TYR	20	3.098	33.987	89.985	1.00	46.33	AAGL
ATOM	146	CG	TYR	20	2.199	35.092	90.475	1.00	46.92	AAGL
ATOM	147	CD1	TYR	20	1.174	34.837	91.384	1.00	47.92	AAGL
ATOM	148	CE1	TYR	20	0.317	35.856	91.804	1.00	48.81	AAGL
ATOM	149	CD2	TYR	20	2.351	36.388	89.995	1.00	48.25	AAGL
ATOM	150	CE2	TYR	20	1.509	37.406	90.399	1.00	48.75	AAGL
ATOM	151	CZ	TYR	20	0.494	37.135	91.301	1.00	49.08	AAGL
ATOM	152	OH	TYR	20	-0.350	38.146	91.676	1.00	50.05	AAGL
ATOM	153	C	TYR	20	4.243	33.232	87.916	1.00	42.70	AAGL
ATOM	154	O	TYR	20	4.541	32.043	87.857	1.00	41.19	AAGL
ATOM	155	N	SER	21	5.040	34.211	87.494	1.00	42.54	AAGL
ATOM	156	CA	SER	21	6.360	33.981	86.918	1.00	42.59	AAGL
ATOM	157	CB	SER	21	6.255	33.775	85.402	1.00	43.78	AAGL
ATOM	158	OG	SER	21	5.527	34.835	84.790	1.00	44.41	AAGL
ATOM	159	C	SER	21	7.191	35.224	87.221	1.00	41.81	AAGL
ATOM	160	O	SER	21	6.639	36.307	87.421	1.00	42.15	AAGL
ATOM	161	N	TYR	22	8.510	35.075	87.260	1.00	40.81	AAGL
ATOM	162	CA	TYR	22	9.382	36.205	87.558	1.00	40.63	AAGL
ATOM	163	CB	TYR	22	10.143	35.955	88.855	1.00	39.48	AAGL
ATOM	164	CG	TYR	22	9.248	35.579	90.010	1.00	37.92	AAGL
ATOM	165	CD1	TYR	22	8.820	34.261	90.186	1.00	35.93	AAGL
ATOM	166	CE1	TYR	22	7.987	33.913	91.246	1.00	35.62	AAGL
ATOM	167	CD2	TYR	22	8.820	36.540	90.921	1.00	37.21	AAGL
ATOM	168	CE2	TYR	22	7.982	36.204	91.982	1.00	35.75	AAGL
ATOM	169	CZ	TYR	22	7.574	34.897	92.140	1.00	36.41	AAGL
ATOM	170	OH	TYR	22	6.761	34.573	93.196	1.00	34.78	AAGL
ATOM	171	C	TYR	22	10.385	36.498	86.455	1.00	41.14	AAGL
ATOM	172	O	TYR	22	10.607	35.672	85.568	1.00	40.90	AAGL
ATOM	173	N	LYS	23	10.990	37.684	86.532	1.00	40.98	AAGL
ATOM	174	CA	LYS	23	11.987	38.131	85.565	1.00	41.42	AAGL
ATOM	175	CB	LYS	23	11.430	39.257	84.690	1.00	44.58	AAGL
ATOM	176	CG	LYS	23	10.779	38.781	83.398	1.00	49.11	AAGL
ATOM	177	CD	LYS	23	9.379	38.262	83.633	1.00	51.49	AAGL
ATOM	178	CE	LYS	23	8.453	39.401	84.042	1.00	52.49	AAGL
ATOM	179	NZ	LYS	23	8.461	40.487	83.021	1.00	51.35	AAGL
ATOM	180	C	LYS	23	13.248	38.634	86.243	1.00	40.33	AAGL
ATOM	181	O	LYS	23	13.184	39.363	87.241	1.00	39.11	AAGL
ATOM	182	N	ASN	24	14.396	38.246	85.693	1.00	38.79	AAGL
ATOM	183	CA	ASN	24	15.682	38.672	86.226	1.00	40.03	AAGL
ATOM	184	CB	ASN	24	16.807	37.935	85.509	1.00	42.29	AAGL
ATOM	185	CG	ASN	24	16.738	38.104	84.004	1.00	42.84	AAGL
ATOM	186	OD1	ASN	24	16.732	39.224	83.497	1.00	43.55	AAGL
ATOM	187	ND2	ASN	24	16.675	36.993	83.282	1.00	45.13	AAGL
ATOM	188	C	ASN	24	15.840	40.178	86.018	1.00	40.98	AAGL
ATOM	189	O	ASN	24	14.938	40.837	85.494	1.00	38.96	AAGL
ATOM	190	N	LEU	25	16.987	40.720	86.423	1.00	42.28	AAGL
ATOM	191	CA	LEU	25	17.246	42.149	86.283	1.00	44.49	AAGL
ATOM	192	CB	LEU	25	18.528	42.543	87.032	1.00	44.66	AAGL
ATOM	193	CG	LEU	25	18.549	42.643	88.563	1.00	45.79	AAGL
ATOM	194	CD1	LEU	25	17.376	43.494	89.037	1.00	45.23	AAGL
ATOM	195	CD2	LEU	25	18.493	41.252	89.189	1.00	46.13	AAGL
ATOM	196	C	LEU	25	17.345	42.614	84.824	1.00	45.76	AAGL
ATOM	197	O	LEU	25	17.454	43.814	84.562	1.00	46.23	AAGL

Fig. 3 cont.

90/174

ATOM	198	N	ASN	26	17.311	41.675	83.880	1.00	46.41	AAGL
ATOM	199	CA	ASN	26	17.365	42.021	82.455	1.00	47.05	AAGL
ATOM	200	CB	ASN	26	18.288	41.066	81.676	1.00	47.42	AAGL
ATOM	201	CG	ASN	26	19.747	41.198	82.074	1.00	49.18	AAGL
ATOM	202	OD1	ASN	26	20.207	42.276	82.459	1.00	49.93	AAGL
ATOM	203	ND2	ASN	26	20.492	40.100	81.961	1.00	49.97	AAGL
ATOM	204	C	ASN	26	15.966	41.947	81.848	1.00	47.00	AAGL
ATOM	205	O	ASN	26	15.796	42.082	80.634	1.00	47.34	AAGL
ATOM	206	N	GLY	27	14.961	41.712	82.684	1.00	45.83	AAGL
ATOM	207	CA	GLY	27	13.602	41.628	82.176	1.00	45.48	AAGL
ATOM	208	C	GLY	27	13.343	40.327	81.436	1.00	45.43	AAGL
ATOM	209	O	GLY	27	12.388	40.225	80.669	1.00	46.84	AAGL
ATOM	210	N	GLN	28	14.198	39.332	81.648	1.00	45.03	AAGL
ATOM	211	CA	GLN	28	14.023	38.037	81.002	1.00	44.89	AAGL
ATOM	212	CB	GLN	28	15.385	37.428	80.633	1.00	46.09	AAGL
ATOM	213	CG	GLN	28	16.346	38.371	79.909	1.00	48.72	AAGL
ATOM	214	CD	GLN	28	17.649	37.684	79.531	1.00	49.91	AAGL
ATOM	215	OE1	GLN	28	17.674	36.802	78.668	1.00	51.23	AAGL
ATOM	216	NE2	GLN	28	18.740	38.075	80.187	1.00	51.05	AAGL
ATOM	217	C	GLN	28	13.312	37.093	81.980	1.00	43.57	AAGL
ATOM	218	O	GLN	28	13.800	36.871	83.088	1.00	40.72	AAGL
ATOM	219	N	THR	29	12.166	36.542	81.580	1.00	42.64	AAGL
ATOM	220	CA	THR	29	11.441	35.610	82.445	1.00	42.01	AAGL
ATOM	221	CB	THR	29	10.201	35.022	81.746	1.00	42.12	AAGL
ATOM	222	OG1	THR	29	9.191	36.030	81.626	1.00	42.02	AAGL
ATOM	223	CG2	THR	29	9.639	33.857	82.552	1.00	41.97	AAGL
ATOM	224	C	THR	29	12.393	34.472	82.787	1.00	41.90	AAGL
ATOM	225	O	THR	29	13.233	34.095	81.966	1.00	41.33	AAGL
ATOM	226	N	GLN	30	12.261	33.909	83.984	1.00	40.58	AAGL
ATOM	227	CA	GLN	30	13.158	32.835	84.392	1.00	39.49	AAGL
ATOM	228	CB	GLN	30	14.585	33.383	84.396	1.00	40.50	AAGL
ATOM	229	CG	GLN	30	15.604	32.528	85.100	1.00	43.69	AAGL
ATOM	230	CD	GLN	30	17.014	33.031	84.892	1.00	46.36	AAGL
ATOM	231	OE1	GLN	30	17.325	34.200	85.159	1.00	45.16	AAGL
ATOM	232	NE2	GLN	30	17.888	32.145	84.409	1.00	47.79	AAGL
ATOM	233	C	GLN	30	12.790	32.268	85.763	1.00	38.44	AAGL
ATOM	234	O	GLN	30	12.368	33.004	86.656	1.00	38.87	AAGL
ATOM	235	N	ALA	31	12.946	30.958	85.929	1.00	36.80	AAGL
ATOM	236	CA	ALA	31	12.617	30.314	87.202	1.00	34.49	AAGL
ATOM	237	CB	ALA	31	13.079	28.855	87.186	1.00	34.38	AAGL
ATOM	238	C	ALA	31	13.261	31.059	88.371	1.00	32.91	AAGL
ATOM	239	O	ALA	31	14.474	31.278	88.392	1.00	32.07	AAGL
ATOM	240	N	LEU	32	12.441	31.432	89.352	1.00	33.31	AAGL
ATOM	241	CA	LEU	32	12.914	32.180	90.522	1.00	29.54	AAGL
ATOM	242	CB	LEU	32	11.809	32.294	91.574	1.00	28.70	AAGL
ATOM	243	CG	LEU	32	12.229	33.100	92.815	1.00	26.84	AAGL
ATOM	244	CD1	LEU	32	12.430	34.545	92.422	1.00	26.55	AAGL
ATOM	245	CD2	LEU	32	11.173	32.985	93.916	1.00	26.84	AAGL
ATOM	246	C	LEU	32	14.160	31.618	91.192	1.00	30.30	AAGL
ATOM	247	O	LEU	32	15.068	32.375	91.545	1.00	29.24	AAGL
ATOM	248	N	GLU	33	14.205	30.304	91.387	1.00	29.20	AAGL
ATOM	249	CA	GLU	33	15.360	29.698	92.036	1.00	29.33	AAGL
ATOM	250	CB	GLU	33	15.164	28.184	92.223	1.00	30.11	AAGL
ATOM	251	CG	GLU	33	15.225	27.380	90.934	1.00	32.96	AAGL
ATOM	252	CD	GLU	33	13.872	27.167	90.294	1.00	32.82	AAGL
ATOM	253	OE1	GLU	33	12.979	28.030	90.451	1.00	32.32	AAGL
ATOM	254	OE2	GLU	33	13.706	26.126	89.609	1.00	34.46	AAGL
ATOM	255	C	GLU	33	16.641	29.949	91.242	1.00	30.20	AAGL
ATOM	256	O	GLU	33	17.708	30.125	91.828	1.00	30.32	AAGL
ATOM	257	N	THR	34	16.544	29.967	89.912	1.00	31.16	AAGL
ATOM	258	CA	THR	34	17.734	30.197	89.102	1.00	32.16	AAGL
ATOM	259	CB	THR	34	17.545	29.703	87.636	1.00	34.39	AAGL
ATOM	260	OG1	THR	34	16.690	30.598	86.916	1.00	39.01	AAGL
ATOM	261	CG2	THR	34	16.915	28.315	87.628	1.00	33.29	AAGL
ATOM	262	C	THR	34	18.100	31.677	89.120	1.00	30.19	AAGL
ATOM	263	O	THR	34	19.269	32.027	89.031	1.00	32.36	AAGL

Fig. 3 cont.

91/174

ATOM	264	N	ILE	35	17.101	32.542	89.254	1.00	29.48	AAGL
ATOM	265	CA	ILE	35	17.343	33.982	89.318	1.00	29.20	AAGL
ATOM	266	CB	ILE	35	16.030	34.783	89.364	1.00	29.36	AAGL
ATOM	267	CG2	ILE	35	16.329	36.253	89.647	1.00	32.47	AAGL
ATOM	268	CG1	ILE	35	15.265	34.620	88.052	1.00	30.39	AAGL
ATOM	269	CD1	ILE	35	13.998	35.456	87.981	1.00	32.09	AAGL
ATOM	270	C	ILE	35	18.103	34.276	90.605	1.00	29.48	AAGL
ATOM	271	O	ILE	35	19.039	35.068	90.627	1.00	28.30	AAGL
ATOM	272	N	LEU	36	17.676	33.631	91.684	1.00	28.93	AAGL
ATOM	273	CA	LEU	36	18.297	33.809	92.989	1.00	27.40	AAGL
ATOM	274	CB	LEU	36	17.420	33.142	94.050	1.00	29.01	AAGL
ATOM	275	CG	LEU	36	16.067	33.824	94.220	1.00	29.41	AAGL
ATOM	276	CD1	LEU	36	15.139	32.993	95.105	1.00	32.23	AAGL
ATOM	277	CD2	LEU	36	16.318	35.198	94.831	1.00	29.88	AAGL
ATOM	278	C	LEU	36	19.693	33.220	93.036	1.00	26.84	AAGL
ATOM	279	O	LEU	36	20.630	33.840	93.542	1.00	26.88	AAGL
ATOM	280	N	ALA	37	19.829	32.005	92.515	1.00	28.77	AAGL
ATOM	281	CA	ALA	37	21.118	31.325	92.509	1.00	30.25	AAGL
ATOM	282	CB	ALA	37	20.988	29.971	91.805	1.00	29.94	AAGL
ATOM	283	C	ALA	37	22.185	32.180	91.827	1.00	29.84	AAGL
ATOM	284	O	ALA	37	23.274	32.373	92.365	1.00	30.61	AAGL
ATOM	285	N	ASP	38	21.856	32.706	90.652	1.00	30.68	AAGL
ATOM	286	CA	ASP	38	22.798	33.524	89.894	1.00	31.88	AAGL
ATOM	287	CB	ASP	38	22.240	33.843	88.508	1.00	32.57	AAGL
ATOM	288	CG	ASP	38	22.007	32.603	87.673	1.00	36.25	AAGL
ATOM	289	OD1	ASP	38	22.749	31.610	87.859	1.00	36.97	AAGL
ATOM	290	OD2	ASP	38	21.085	32.621	86.830	1.00	37.38	AAGL
ATOM	291	C	ASP	38	23.127	34.824	90.601	1.00	31.89	AAGL
ATOM	292	O	ASP	38	24.174	35.423	90.353	1.00	33.41	AAGL
ATOM	293	N	ALA	39	22.226	35.265	91.476	1.00	31.50	AAGL
ATOM	294	CA	ALA	39	22.433	36.503	92.207	1.00	29.58	AAGL
ATOM	295	CB	ALA	39	21.088	37.099	92.626	1.00	29.62	AAGL
ATOM	296	C	ALA	39	23.319	36.300	93.423	1.00	29.11	AAGL
ATOM	297	O	ALA	39	23.739	37.268	94.053	1.00	28.08	AAGL
ATOM	298	N	GLY	40	23.603	35.047	93.769	1.00	28.38	AAGL
ATOM	299	CA	GLY	40	24.462	34.804	94.915	1.00	28.68	AAGL
ATOM	300	C	GLY	40	23.804	34.079	96.077	1.00	27.30	AAGL
ATOM	301	O	GLY	40	24.489	33.628	96.994	1.00	28.21	AAGL
ATOM	302	N	ILE	41	22.480	33.973	96.046	1.00	27.82	AAGL
ATOM	303	CA	ILE	41	21.754	33.271	97.105	1.00	28.31	AAGL
ATOM	304	CB	ILE	41	20.231	33.267	96.841	1.00	28.86	AAGL
ATOM	305	CG2	ILE	41	19.502	32.678	98.047	1.00	26.11	AAGL
ATOM	306	CG1	ILE	41	19.741	34.680	96.490	1.00	32.71	AAGL
ATOM	307	CD1	ILE	41	20.041	35.739	97.526	1.00	34.86	AAGL
ATOM	308	C	ILE	41	22.262	31.830	97.055	1.00	29.05	AAGL
ATOM	309	O	ILE	41	22.275	31.223	95.982	1.00	28.58	AAGL
ATOM	310	N	ASN	42	22.694	31.283	98.192	1.00	27.24	AAGL
ATOM	311	CA	ASN	42	23.209	29.921	98.192	1.00	27.38	AAGL
ATOM	312	CB	ASN	42	24.715	29.897	98.547	1.00	26.67	AAGL
ATOM	313	CG	ASN	42	25.014	30.267	99.999	1.00	29.27	AAGL
ATOM	314	OD1	ASN	42	26.177	30.238	100.422	1.00	30.70	AAGL
ATOM	315	ND2	ASN	42	23.984	30.620	100.767	1.00	28.35	AAGL
ATOM	316	C	ASN	42	22.449	28.945	99.077	1.00	27.09	AAGL
ATOM	317	O	ASN	42	22.873	27.801	99.244	1.00	25.65	AAGL
ATOM	318	N	SER	43	21.324	29.390	99.633	1.00	25.87	AAGL
ATOM	319	CA	SER	43	20.525	28.520	100.481	1.00	25.56	AAGL
ATOM	320	CB	SER	43	21.049	28.551	101.913	1.00	26.01	AAGL
ATOM	321	OG	SER	43	20.497	27.483	102.665	1.00	25.97	AAGL
ATOM	322	C	SER	43	19.051	28.914	100.462	1.00	25.21	AAGL
ATOM	323	O	SER	43	18.714	30.096	100.411	1.00	22.67	AAGL
ATOM	324	N	ILE	44	18.177	27.910	100.494	1.00	24.04	AAGL
ATOM	325	CA	ILE	44	16.737	28.146	100.475	1.00	23.25	AAGL
ATOM	326	CB	ILE	44	16.105	27.603	99.166	1.00	25.17	AAGL
ATOM	327	CG2	ILE	44	14.599	27.796	99.185	1.00	23.06	AAGL
ATOM	328	CG1	ILE	44	16.698	28.333	97.953	1.00	25.29	AAGL
ATOM	329	CD1	ILE	44	16.327	29.795	97.867	1.00	26.67	AAGL

Fig. 3 cont.

92/174

ATOM	330	C	ILE	44	16.057	27.481	101.677	1.00	23.88	AAGL
ATOM	331	O	ILE	44	16.273	26.305	101.953	1.00	22.19	AAGL
ATOM	332	N	ARG	45	15.244	28.262	102.384	1.00	21.15	AAGL
ATOM	333	CA	ARG	45	14.512	27.796	103.558	1.00	20.84	AAGL
ATOM	334	CB	ARG	45	14.497	28.905	104.607	1.00	19.60	AAGL
ATOM	335	CG	ARG	45	13.815	28.594	105.927	1.00	22.30	AAGL
ATOM	336	CD	ARG	45	13.941	29.840	106.803	1.00	22.44	AAGL
ATOM	337	NE	ARG	45	13.442	29.713	108.172	1.00	21.57	AAGL
ATOM	338	CZ	ARG	45	12.253	30.147	108.580	1.00	21.21	AAGL
ATOM	339	NH1	ARG	45	11.420	30.721	107.726	1.00	19.38	AAGL
ATOM	340	NH2	ARG	45	11.924	30.071	109.864	1.00	18.87	AAGL
ATOM	341	C	ARG	45	13.091	27.456	103.120	1.00	18.60	AAGL
ATOM	342	O	ARG	45	12.471	28.214	102.376	1.00	19.88	AAGL
ATOM	343	N	GLN	46	12.582	26.314	103.574	1.00	19.69	AAGL
ATOM	344	CA	GLN	46	11.235	25.881	103.212	1.00	18.26	AAGL
ATOM	345	CB	GLN	46	11.311	24.701	102.234	1.00	19.90	AAGL
ATOM	346	CG	GLN	46	12.070	25.027	100.949	1.00	19.68	AAGL
ATOM	347	CD	GLN	46	12.093	23.880	99.946	1.00	23.43	AAGL
ATOM	348	OE1	GLN	46	12.705	23.992	98.882	1.00	26.77	AAGL
ATOM	349	NE2	GLN	46	11.429	22.777	100.278	1.00	21.73	AAGL
ATOM	350	C	GLN	46	10.432	25.467	104.445	1.00	17.71	AAGL
ATOM	351	O	GLN	46	10.896	24.649	105.238	1.00	18.22	AAGL
ATOM	352	N	ARG	47	9.233	26.023	104.601	1.00	18.28	AAGL
ATOM	353	CA	ARG	47	8.409	25.670	105.751	1.00	18.38	AAGL
ATOM	354	CB	ARG	47	7.414	26.792	106.095	1.00	18.50	AAGL
ATOM	355	CG	ARG	47	6.542	27.319	104.954	1.00	21.41	AAGL
ATOM	356	CD	ARG	47	5.455	28.254	105.503	1.00	20.07	AAGL
ATOM	357	NE	ARG	47	4.735	28.978	104.453	1.00	18.68	AAGL
ATOM	358	CZ	ARG	47	5.228	30.016	103.783	1.00	19.34	AAGL
ATOM	359	NH1	ARG	47	6.448	30.472	104.054	1.00	20.84	AAGL
ATOM	360	NH2	ARG	47	4.513	30.582	102.819	1.00	19.53	AAGL
ATOM	361	C	ARG	47	7.677	24.365	105.472	1.00	18.74	AAGL
ATOM	362	O	ARG	47	7.101	24.183	104.403	1.00	18.19	AAGL
ATOM	363	N	VAL	48	7.710	23.458	106.445	1.00	19.24	AAGL
ATOM	364	CA	VAL	48	7.074	22.155	106.301	1.00	20.17	AAGL
ATOM	365	CB	VAL	48	8.109	21.023	106.490	1.00	20.89	AAGL
ATOM	366	CG1	VAL	48	7.488	19.677	106.130	1.00	20.76	AAGL
ATOM	367	CG2	VAL	48	9.350	21.301	105.644	1.00	21.80	AAGL
ATOM	368	C	VAL	48	5.947	21.932	107.311	1.00	20.72	AAGL
ATOM	369	O	VAL	48	6.166	22.027	108.517	1.00	19.48	AAGL
ATOM	370	N	TRP	49	4.748	21.647	106.805	1.00	18.93	AAGL
ATOM	371	CA	TRP	49	3.590	21.371	107.646	1.00	19.06	AAGL
ATOM	372	CB	TRP	49	2.382	22.168	107.167	1.00	19.85	AAGL
ATOM	373	CG	TRP	49	2.525	23.645	107.414	1.00	19.05	AAGL
ATOM	374	CD2	TRP	49	1.608	24.673	107.024	1.00	18.82	AAGL
ATOM	375	CE2	TRP	49	2.125	25.897	107.504	1.00	19.73	AAGL
ATOM	376	CE3	TRP	49	0.396	24.678	106.316	1.00	20.02	AAGL
ATOM	377	CD1	TRP	49	3.535	24.271	108.090	1.00	17.67	AAGL
ATOM	378	NE1	TRP	49	3.300	25.620	108.149	1.00	18.03	AAGL
ATOM	379	CZ2	TRP	49	1.475	27.117	107.301	1.00	20.25	AAGL
ATOM	380	CZ3	TRP	49	-0.253	25.899	106.112	1.00	22.82	AAGL
ATOM	381	CH2	TRP	49	0.291	27.100	106.606	1.00	22.06	AAGL
ATOM	382	C	TRP	49	3.306	19.873	107.587	1.00	19.52	AAGL
ATOM	383	O	TRP	49	3.553	19.231	106.563	1.00	19.96	AAGL
ATOM	384	N	VAL	50	2.778	19.322	108.677	1.00	18.80	AAGL
ATOM	385	CA	VAL	50	2.522	17.886	108.756	1.00	20.11	AAGL
ATOM	386	CB	VAL	50	2.398	17.443	110.231	1.00	18.82	AAGL
ATOM	387	CG1	VAL	50	2.120	15.954	110.316	1.00	21.34	AAGL
ATOM	388	CG2	VAL	50	3.695	17.768	110.966	1.00	21.13	AAGL
ATOM	389	C	VAL	50	1.340	17.362	107.947	1.00	22.22	AAGL
ATOM	390	O	VAL	50	1.538	16.629	106.973	1.00	23.75	AAGL
ATOM	391	N	ASN	51	0.119	17.721	108.329	1.00	22.74	AAGL
ATOM	392	CA	ASN	51	-1.044	17.251	107.585	1.00	25.51	AAGL
ATOM	393	CB	ASN	51	-1.765	16.133	108.354	1.00	26.96	AAGL
ATOM	394	CG	ASN	51	-0.879	14.932	108.619	0.50	27.07	AAGL
ATOM	395	OD1	ASN	51	-0.265	14.387	107.707	0.50	29.27	AAGL

Fig. 3 cont.

93/174

ATOM	396	ND2	ASN	51	-0.821	14.505	109.878	0.50	28.87	AAGL
ATOM	397	C	ASN	51	-2.055	18.350	107.238	1.00	26.72	AAGL
ATOM	398	O	ASN	51	-3.204	18.305	107.668	1.00	27.90	AAGL
ATOM	399	N	PRO	52	-1.638	19.358	106.459	1.00	26.25	AAGL
ATOM	400	CD	PRO	52	-0.337	19.594	105.814	1.00	25.34	AAGL
ATOM	401	CA	PRO	52	-2.599	20.410	106.113	1.00	26.62	AAGL
ATOM	402	CB	PRO	52	-1.735	21.431	105.389	1.00	25.68	AAGL
ATOM	403	CG	PRO	52	-0.697	20.582	104.735	1.00	25.47	AAGL
ATOM	404	C	PRO	52	-3.690	19.816	105.215	1.00	28.63	AAGL
ATOM	405	O	PRO	52	-3.391	19.112	104.254	1.00	27.01	AAGL
ATOM	406	N	SER	53	-4.949	20.086	105.543	1.00	29.82	AAGL
ATOM	407	CA	SER	53	-6.062	19.554	104.760	1.00	33.18	AAGL
ATOM	408	CB	SER	53	-7.394	20.100	105.281	1.00	35.65	AAGL
ATOM	409	OG	SER	53	-7.728	19.496	106.515	1.00	38.67	AAGL
ATOM	410	C	SER	53	-5.948	19.859	103.274	1.00	32.30	AAGL
ATOM	411	O	SER	53	-6.284	19.019	102.434	1.00	32.67	AAGL
ATOM	412	N	ASP	54	-5.469	21.053	102.949	1.00	31.58	AAGL
ATOM	413	CA	ASP	54	-5.343	21.444	101.555	1.00	31.37	AAGL
ATOM	414	CB	ASP	54	-5.736	22.922	101.389	1.00	33.51	AAGL
ATOM	415	CG	ASP	54	-4.616	23.878	101.754	1.00	35.96	AAGL
ATOM	416	OD1	ASP	54	-3.796	23.537	102.630	1.00	35.79	AAGL
ATOM	417	OD2	ASP	54	-4.569	24.986	101.166	1.00	38.48	AAGL
ATOM	418	C	ASP	54	-3.974	21.164	100.937	1.00	30.51	AAGL
ATOM	419	O	ASP	54	-3.715	21.572	99.812	1.00	30.89	AAGL
ATOM	420	N	GLY	55	-3.110	20.460	101.670	1.00	31.08	AAGL
ATOM	421	CA	GLY	55	-1.790	20.102	101.161	1.00	29.00	AAGL
ATOM	422	C	GLY	55	-0.684	21.149	101.119	1.00	28.85	AAGL
ATOM	423	O	GLY	55	0.475	20.829	100.834	1.00	27.57	AAGL
ATOM	424	N	SER	56	-1.028	22.399	101.398	1.00	29.06	AAGL
ATOM	425	CA	SER	56	-0.036	23.468	101.362	1.00	29.25	AAGL
ATOM	426	CB	SER	56	-0.685	24.799	101.747	1.00	33.01	AAGL
ATOM	427	OG	SER	56	-1.603	25.222	100.746	1.00	35.28	AAGL
ATOM	428	C	SER	56	1.163	23.211	102.266	1.00	27.16	AAGL
ATOM	429	O	SER	56	1.013	22.944	103.462	1.00	26.75	AAGL
ATOM	430	N	TYR	57	2.350	23.282	101.673	1.00	24.25	AAGL
ATOM	431	CA	TYR	57	3.611	23.102	102.379	1.00	23.39	AAGL
ATOM	432	CB	TYR	57	3.773	24.192	103.455	1.00	21.44	AAGL
ATOM	433	CG	TYR	57	3.411	25.586	102.983	1.00	18.93	AAGL
ATOM	434	CD1	TYR	57	4.090	26.183	101.927	1.00	20.85	AAGL
ATOM	435	CE1	TYR	57	3.733	27.448	101.457	1.00	20.55	AAGL
ATOM	436	CD2	TYR	57	2.363	26.291	103.575	1.00	20.42	AAGL
ATOM	437	CE2	TYR	57	1.992	27.555	103.119	1.00	23.25	AAGL
ATOM	438	CZ	TYR	57	2.687	28.130	102.049	1.00	22.03	AAGL
ATOM	439	OH	TYR	57	2.323	29.367	101.572	1.00	24.57	AAGL
ATOM	440	C	TYR	57	3.809	21.736	103.024	1.00	24.63	AAGL
ATOM	441	O	TYR	57	4.583	21.619	103.972	1.00	22.67	AAGL
ATOM	442	N	ASP	58	3.121	20.701	102.540	1.00	25.81	AAGL
ATOM	443	CA	ASP	58	3.319	19.376	103.128	1.00	27.04	AAGL
ATOM	444	CB	ASP	58	2.084	18.473	102.946	1.00	27.80	AAGL
ATOM	445	CG	ASP	58	1.763	18.160	101.491	1.00	32.21	AAGL
ATOM	446	OD1	ASP	58	2.652	18.279	100.623	1.00	30.26	AAGL
ATOM	447	OD2	ASP	58	0.597	17.768	101.228	1.00	32.38	AAGL
ATOM	448	C	ASP	58	4.574	18.724	102.542	1.00	28.05	AAGL
ATOM	449	O	ASP	58	5.320	19.367	101.793	1.00	27.53	AAGL
ATOM	450	N	LEU	59	4.820	17.462	102.883	1.00	26.92	AAGL
ATOM	451	CA	LEU	59	6.018	16.786	102.403	1.00	28.31	AAGL
ATOM	452	CB	LEU	59	6.116	15.377	103.001	1.00	30.14	AAGL
ATOM	453	CG	LEU	59	7.435	14.620	102.784	1.00	29.84	AAGL
ATOM	454	CD1	LEU	59	8.609	15.430	103.323	1.00	31.61	AAGL
ATOM	455	CD2	LEU	59	7.355	13.265	103.479	1.00	31.80	AAGL
ATOM	456	C	LEU	59	6.145	16.714	100.885	1.00	26.89	AAGL
ATOM	457	O	LEU	59	7.220	16.952	100.342	1.00	24.30	AAGL
ATOM	458	N	ASP	60	5.061	16.401	100.188	1.00	28.43	AAGL
ATOM	459	CA	ASP	60	5.145	16.315	98.736	1.00	29.43	AAGL
ATOM	460	CB	ASP	60	3.850	15.740	98.149	1.00	32.44	AAGL
ATOM	461	CG	ASP	60	3.557	14.332	98.651	1.00	37.53	AAGL

Fig. 3 cont.

94/174

ATOM	462	OD1	ASP	60	4.518	13.547	98.833	1.00	40.66	AAGL
ATOM	463	OD2	ASP	60	2.365	14.000	98.858	1.00	42.65	AAGL
ATOM	464	C	ASP	60	5.439	17.689	98.137	1.00	30.40	AAGL
ATOM	465	O	ASP	60	6.266	17.816	97.237	1.00	28.80	AAGL
ATOM	466	N	TYR	61	4.761	18.710	98.651	1.00	28.48	AAGL
ATOM	467	CA	TYR	61	4.944	20.088	98.203	1.00	25.60	AAGL
ATOM	468	CB	TYR	61	4.100	21.031	99.080	1.00	25.21	AAGL
ATOM	469	CG	TYR	61	4.182	22.508	98.723	1.00	25.14	AAGL
ATOM	470	CD1	TYR	61	5.283	23.286	99.095	1.00	23.80	AAGL
ATOM	471	CE1	TYR	61	5.360	24.639	98.759	1.00	24.64	AAGL
ATOM	472	CD2	TYR	61	3.154	23.125	98.006	1.00	25.32	AAGL
ATOM	473	CE2	TYR	61	3.220	24.481	97.664	1.00	26.31	AAGL
ATOM	474	CZ	TYR	61	4.327	25.231	98.043	1.00	25.45	AAGL
ATOM	475	OH	TYR	61	4.403	26.565	97.687	1.00	24.80	AAGL
ATOM	476	C	TYR	61	6.422	20.444	98.330	1.00	26.83	AAGL
ATOM	477	O	TYR	61	7.039	20.948	97.393	1.00	25.72	AAGL
ATOM	478	N	ASN	62	6.992	20.159	99.493	1.00	24.55	AAGL
ATOM	479	CA	ASN	62	8.388	20.458	99.733	1.00	25.46	AAGL
ATOM	480	CB	ASN	62	8.695	20.315	101.225	1.00	25.35	AAGL
ATOM	481	CG	ASN	62	8.316	21.568	102.009	1.00	25.66	AAGL
ATOM	482	OD1	ASN	62	9.047	22.556	101.998	1.00	23.45	AAGL
ATOM	483	ND2	ASN	62	7.159	21.539	102.666	1.00	21.77	AAGL
ATOM	484	C	ASN	62	9.355	19.629	98.899	1.00	25.81	AAGL
ATOM	485	O	ASN	62	10.450	20.090	98.596	1.00	23.79	AAGL
ATOM	486	N	LEU	63	8.969	18.411	98.528	1.00	25.79	AAGL
ATOM	487	CA	LEU	63	9.856	17.589	97.708	1.00	27.44	AAGL
ATOM	488	CB	LEU	63	9.320	16.153	97.581	1.00	29.01	AAGL
ATOM	489	CG	LEU	63	9.673	15.225	98.743	1.00	31.95	AAGL
ATOM	490	CD1	LEU	63	9.041	13.851	98.508	1.00	32.91	AAGL
ATOM	491	CD2	LEU	63	11.199	15.114	98.872	1.00	32.19	AAGL
ATOM	492	C	LEU	63	10.001	18.207	96.322	1.00	27.90	AAGL
ATOM	493	O	LEU	63	11.102	18.275	95.772	1.00	29.37	AAGL
ATOM	494	N	GLU	64	8.882	18.662	95.768	1.00	28.38	AAGL
ATOM	495	CA	GLU	64	8.859	19.280	94.447	1.00	30.60	AAGL
ATOM	496	CB	GLU	64	7.414	19.642	94.078	1.00	32.03	AAGL
ATOM	497	CG	GLU	64	7.198	20.124	92.639	1.00	36.66	AAGL
ATOM	498	CD	GLU	64	5.747	20.468	92.364	1.00	38.83	AAGL
ATOM	499	OE1	GLU	64	4.874	19.637	92.688	1.00	41.75	AAGL
ATOM	500	OE2	GLU	64	5.464	21.565	91.822	1.00	41.60	AAGL
ATOM	501	C	GLU	64	9.727	20.536	94.454	1.00	29.58	AAGL
ATOM	502	O	GLU	64	10.525	20.769	93.541	1.00	27.18	AAGL
ATOM	503	N	LEU	65	9.578	21.343	95.497	1.00	27.01	AAGL
ATOM	504	CA	LEU	65	10.344	22.576	95.611	1.00	25.95	AAGL
ATOM	505	CB	LEU	65	9.754	23.455	96.721	1.00	27.05	AAGL
ATOM	506	CG	LEU	65	10.420	24.806	97.018	1.00	25.59	AAGL
ATOM	507	CD1	LEU	65	10.528	25.628	95.760	1.00	24.36	AAGL
ATOM	508	CD2	LEU	65	9.600	25.544	98.074	1.00	25.15	AAGL
ATOM	509	C	LEU	65	11.824	22.329	95.877	1.00	26.00	AAGL
ATOM	510	O	LEU	65	12.677	23.029	95.329	1.00	27.12	AAGL
ATOM	511	N	ALA	66	12.131	21.330	96.699	1.00	23.38	AAGL
ATOM	512	CA	ALA	66	13.517	21.025	97.038	1.00	25.19	AAGL
ATOM	513	CB	ALA	66	13.572	20.017	98.203	1.00	25.90	AAGL
ATOM	514	C	ALA	66	14.278	20.481	95.833	1.00	27.46	AAGL
ATOM	515	O	ALA	66	15.479	20.714	95.697	1.00	28.22	AAGL
ATOM	516	N	LYS	67	13.578	19.752	94.969	1.00	28.70	AAGL
ATOM	517	CA	LYS	67	14.201	19.188	93.768	1.00	32.17	AAGL
ATOM	518	CB	LYS	67	13.164	18.444	92.924	1.00	32.68	AAGL
ATOM	519	CG	LYS	67	12.902	17.003	93.358	1.00	36.34	AAGL
ATOM	520	CD	LYS	67	11.676	16.443	92.655	1.00	38.14	AAGL
ATOM	521	CE	LYS	67	11.447	14.989	93.012	1.00	41.38	AAGL
ATOM	522	NZ	LYS	67	10.184	14.468	92.407	1.00	43.11	AAGL
ATOM	523	C	LYS	67	14.813	20.303	92.931	1.00	32.63	AAGL
ATOM	524	O	LYS	67	15.943	20.192	92.453	1.00	32.89	AAGL
ATOM	525	N	ARG	68	14.053	21.376	92.763	1.00	31.49	AAGL
ATOM	526	CA	ARG	68	14.497	22.523	91.988	1.00	31.44	AAGL
ATOM	527	CB	ARG	68	13.300	23.419	91.683	1.00	31.14	AAGL

Fig. 3 cont.

95/174

ATOM	528	CG	ARG	68	12.313	22.760	90.730	1.00	33.54	AAGL
ATOM	529	CD	ARG	68	11.016	23.518	90.619	1.00	32.13	AAGL
ATOM	530	NE	ARG	68	11.222	24.924	90.303	1.00	31.17	AAGL
ATOM	531	CZ	ARG	68	10.238	25.763	90.002	1.00	32.92	AAGL
ATOM	532	NH1	ARG	68	8.985	25.327	89.970	1.00	33.31	AAGL
ATOM	533	NH2	ARG	68	10.498	27.040	89.755	1.00	31.47	AAGL
ATOM	534	C	ARG	68	15.595	23.311	92.691	1.00	31.54	AAGL
ATOM	535	O	ARG	68	16.459	23.905	92.040	1.00	31.76	AAGL
ATOM	536	N	VAL	69	15.570	23.319	94.021	1.00	28.62	AAGL
ATOM	537	CA	VAL	69	16.584	24.025	94.794	1.00	27.79	AAGL
ATOM	538	CB	VAL	69	16.204	24.061	96.281	1.00	24.83	AAGL
ATOM	539	CG1	VAL	69	17.294	24.735	97.092	1.00	27.63	AAGL
ATOM	540	CG2	VAL	69	14.886	24.781	96.442	1.00	26.08	AAGL
ATOM	541	C	VAL	69	17.934	23.325	94.635	1.00	29.09	AAGL
ATOM	542	O	VAL	69	18.968	23.970	94.458	1.00	28.64	AAGL
ATOM	543	N	LYS	70	17.908	21.998	94.711	1.00	29.15	AAGL
ATOM	544	CA	LYS	70	19.108	21.187	94.561	1.00	31.30	AAGL
ATOM	545	CB	LYS	70	18.756	19.707	94.743	1.00	34.31	AAGL
ATOM	546	CG	LYS	70	19.889	18.752	94.422	1.00	36.20	AAGL
ATOM	547	CD	LYS	70	19.399	17.319	94.271	1.00	40.57	AAGL
ATOM	548	CE	LYS	70	18.290	17.224	93.229	1.00	41.78	AAGL
ATOM	549	NZ	LYS	70	18.666	17.932	91.966	1.00	42.36	AAGL
ATOM	550	C	LYS	70	19.693	21.403	93.159	1.00	31.39	AAGL
ATOM	551	O	LYS	70	20.903	21.592	92.997	1.00	31.53	AAGL
ATOM	552	N	ALA	71	18.813	21.386	92.165	1.00	30.10	AAGL
ATOM	553	CA	ALA	71	19.196	21.564	90.771	1.00	31.78	AAGL
ATOM	554	CB	ALA	71	17.957	21.525	89.879	1.00	30.31	AAGL
ATOM	555	C	ALA	71	19.949	22.870	90.570	1.00	33.02	AAGL
ATOM	556	O	ALA	71	20.975	22.900	89.888	1.00	32.79	AAGL
ATOM	557	N	ALA	72	19.442	23.940	91.179	1.00	32.06	AAGL
ATOM	558	CA	ALA	72	20.054	25.257	91.071	1.00	30.23	AAGL
ATOM	559	CB	ALA	72	19.048	26.323	91.463	1.00	31.29	AAGL
ATOM	560	C	ALA	72	21.316	25.389	91.915	1.00	29.83	AAGL
ATOM	561	O	ALA	72	21.908	26.463	91.990	1.00	29.82	AAGL
ATOM	562	N	GLY	73	21.714	24.298	92.561	1.00	28.89	AAGL
ATOM	563	CA	GLY	73	22.926	24.304	93.360	1.00	30.91	AAGL
ATOM	564	C	GLY	73	22.909	25.064	94.675	1.00	32.00	AAGL
ATOM	565	O	GLY	73	23.939	25.589	95.111	1.00	30.50	AAGL
ATOM	566	N	MET	74	21.748	25.121	95.316	1.00	31.23	AAGL
ATOM	567	CA	MET	74	21.641	25.814	96.593	1.00	31.02	AAGL
ATOM	568	CB	MET	74	20.500	26.840	96.537	1.00	29.51	AAGL
ATOM	569	CG	MET	74	20.676	27.893	95.434	1.00	29.42	AAGL
ATOM	570	SD	MET	74	19.481	29.259	95.503	1.00	28.77	AAGL
ATOM	571	CE	MET	74	18.129	28.654	94.532	1.00	26.24	AAGL
ATOM	572	C	MET	74	21.388	24.768	97.681	1.00	29.72	AAGL
ATOM	573	O	MET	74	20.893	23.682	97.385	1.00	30.60	AAGL
ATOM	574	N	SER	75	21.750	25.075	98.925	1.00	28.06	AAGL
ATOM	575	CA	SER	75	21.534	24.125	100.011	1.00	25.93	AAGL
ATOM	576	CB	SER	75	22.454	24.426	101.202	1.00	25.27	AAGL
ATOM	577	OG	SER	75	22.281	25.752	101.671	1.00	24.77	AAGL
ATOM	578	C	SER	75	20.075	24.203	100.439	1.00	27.57	AAGL
ATOM	579	O	SER	75	19.343	25.089	99.997	1.00	26.04	AAGL
ATOM	580	N	LEU	76	19.655	23.268	101.286	1.00	25.74	AAGL
ATOM	581	CA	LEU	76	18.273	23.227	101.747	1.00	27.05	AAGL
ATOM	582	CB	LEU	76	17.602	21.941	101.268	1.00	28.62	AAGL
ATOM	583	CG	LEU	76	16.130	21.726	101.615	1.00	31.64	AAGL
ATOM	584	CD1	LEU	76	15.268	22.677	100.772	1.00	29.51	AAGL
ATOM	585	CD2	LEU	76	15.748	20.268	101.346	1.00	32.16	AAGL
ATOM	586	C	LEU	76	18.177	23.309	103.264	1.00	24.07	AAGL
ATOM	587	O	LEU	76	18.890	22.619	103.985	1.00	24.81	AAGL
ATOM	588	N	TYR	77	17.293	24.179	103.732	1.00	24.59	AAGL
ATOM	589	CA	TYR	77	17.044	24.375	105.162	1.00	21.21	AAGL
ATOM	590	CB	TYR	77	17.441	25.812	105.550	1.00	21.04	AAGL
ATOM	591	CG	TYR	77	16.903	26.417	106.849	1.00	22.71	AAGL
ATOM	592	CD1	TYR	77	16.207	25.664	107.800	1.00	20.07	AAGL
ATOM	593	CE1	TYR	77	15.681	26.276	108.959	1.00	21.30	AAGL

Fig. 3 cont.

96/174

ATOM	594	CD2	TYR	77	17.069	27.784	107.091	1.00	20.07	AAGL
ATOM	595	CE2	TYR	77	16.558	28.394	108.232	1.00	22.16	AAGL
ATOM	596	CZ	TYR	77	15.863	27.646	109.159	1.00	22.47	AAGL
ATOM	597	OH	TYR	77	15.331	28.312	110.248	1.00	21.22	AAGL
ATOM	598	C	TYR	77	15.553	24.121	105.318	1.00	19.67	AAGL
ATOM	599	O	TYR	77	14.730	24.875	104.804	1.00	21.16	AAGL
ATOM	600	N	LEU	78	15.217	23.021	105.989	1.00	19.73	AAGL
ATOM	601	CA	LEU	78	13.826	22.662	106.216	1.00	20.07	AAGL
ATOM	602	CB	LEU	78	13.645	21.140	106.164	1.00	20.48	AAGL
ATOM	603	CG	LEU	78	13.793	20.485	104.784	1.00	24.57	AAGL
ATOM	604	CD1	LEU	78	13.633	18.969	104.898	1.00	25.27	AAGL
ATOM	605	CD2	LEU	78	12.750	21.067	103.833	1.00	23.90	AAGL
ATOM	606	C	LEU	78	13.379	23.199	107.568	1.00	17.57	AAGL
ATOM	607	O	LEU	78	13.980	22.891	108.599	1.00	18.99	AAGL
ATOM	608	N	ASP	79	12.332	24.018	107.534	1.00	18.03	AAGL
ATOM	609	CA	ASP	79	11.754	24.642	108.721	1.00	18.85	AAGL
ATOM	610	CB	ASP	79	11.386	26.098	108.389	1.00	19.55	AAGL
ATOM	611	CG	ASP	79	10.593	26.785	109.493	1.00	25.39	AAGL
ATOM	612	OD1	ASP	79	10.682	26.370	110.662	1.00	22.47	AAGL
ATOM	613	OD2	ASP	79	9.885	27.761	109.180	1.00	27.84	AAGL
ATOM	614	C	ASP	79	10.514	23.848	109.116	1.00	16.61	AAGL
ATOM	615	O	ASP	79	9.427	24.105	108.608	1.00	16.77	AAGL
ATOM	616	N	LEU	80	10.686	22.881	110.014	1.00	16.76	AAGL
ATOM	617	CA	LEU	80	9.573	22.051	110.452	1.00	17.99	AAGL
ATOM	618	CB	LEU	80	10.077	20.777	111.132	1.00	18.64	AAGL
ATOM	619	CG	LEU	80	11.103	19.918	110.385	1.00	19.36	AAGL
ATOM	620	CD1	LEU	80	11.345	18.636	111.166	1.00	20.62	AAGL
ATOM	621	CD2	LEU	80	10.603	19.605	108.986	1.00	18.29	AAGL
ATOM	622	C	LEU	80	8.708	22.802	111.441	1.00	18.46	AAGL
ATOM	623	O	LEU	80	9.162	23.121	112.529	1.00	20.06	AAGL
ATOM	624	N	HIS	81	7.464	23.086	111.071	1.00	17.32	AAGL
ATOM	625	CA	HIS	81	6.572	23.780	111.987	1.00	16.30	AAGL
ATOM	626	CB	HIS	81	5.475	24.525	111.223	1.00	15.62	AAGL
ATOM	627	CG	HIS	81	5.939	25.810	110.612	1.00	19.94	AAGL
ATOM	628	CD2	HIS	81	7.137	26.167	110.093	1.00	19.51	AAGL
ATOM	629	ND1	HIS	81	5.129	26.921	110.507	1.00	20.10	AAGL
ATOM	630	CE1	HIS	81	5.811	27.909	109.952	1.00	20.61	AAGL
ATOM	631	NE2	HIS	81	7.031	27.477	109.693	1.00	20.38	AAGL
ATOM	632	C	HIS	81	5.939	22.811	112.984	1.00	17.32	AAGL
ATOM	633	O	HIS	81	5.368	23.240	113.987	1.00	18.88	AAGL
ATOM	634	N	LEU	82	6.045	21.513	112.709	1.00	16.02	AAGL
ATOM	635	CA	LEU	82	5.484	20.480	113.588	1.00	17.14	AAGL
ATOM	636	CB	LEU	82	6.339	20.342	114.850	1.00	16.85	AAGL
ATOM	637	CG	LEU	82	7.813	20.007	114.595	1.00	20.75	AAGL
ATOM	638	CD1	LEU	82	8.537	19.890	115.923	1.00	18.12	AAGL
ATOM	639	CD2	LEU	82	7.935	18.712	113.812	1.00	18.95	AAGL
ATOM	640	C	LEU	82	4.048	20.826	113.965	1.00	18.59	AAGL
ATOM	641	O	LEU	82	3.664	20.829	115.146	1.00	18.40	AAGL
ATOM	642	N	SER	83	3.268	21.109	112.930	1.00	16.93	AAGL
ATOM	643	CA	SER	83	1.868	21.475	113.052	1.00	16.95	AAGL
ATOM	644	CB	SER	83	1.757	22.914	113.569	1.00	17.01	AAGL
ATOM	645	OG	SER	83	0.415	23.351	113.629	1.00	17.93	AAGL
ATOM	646	C	SER	83	1.276	21.367	111.649	1.00	18.89	AAGL
ATOM	647	O	SER	83	2.011	21.239	110.664	1.00	19.84	AAGL
ATOM	648	N	ASP	84	-0.046	21.404	111.561	1.00	19.63	AAGL
ATOM	649	CA	ASP	84	-0.715	21.317	110.275	1.00	20.59	AAGL
ATOM	650	CB	ASP	84	-2.107	20.695	110.421	1.00	22.19	AAGL
ATOM	651	CG	ASP	84	-2.062	19.246	110.817	1.00	21.52	AAGL
ATOM	652	OD1	ASP	84	-1.025	18.597	110.572	1.00	23.10	AAGL
ATOM	653	OD2	ASP	84	-3.079	18.755	111.360	1.00	23.55	AAGL
ATOM	654	C	ASP	84	-0.866	22.706	109.689	1.00	21.71	AAGL
ATOM	655	O	ASP	84	-1.340	22.854	108.563	1.00	21.81	AAGL
ATOM	656	N	THR	85	-0.461	23.717	110.453	1.00	21.01	AAGL
ATOM	657	CA	THR	85	-0.573	25.102	110.012	1.00	19.92	AAGL
ATOM	658	CB	THR	85	-1.971	25.670	110.370	1.00	22.17	AAGL
ATOM	659	OG1	THR	85	-2.144	26.952	109.763	1.00	22.62	AAGL

Fig. 3 cont.

97/174

ATOM	660	CG2	THR	85	-2.134	25.800	111.874	1.00	23.94	AAGL
ATOM	661	C	THR	85	0.527	25.958	110.646	1.00	19.33	AAGL
ATOM	662	O	THR	85	1.429	25.425	111.298	1.00	18.85	AAGL
ATOM	663	N	TRP	86	0.454	27.276	110.450	1.00	18.81	AAGL
ATOM	664	CA	TRP	86	1.455	28.199	110.988	1.00	17.88	AAGL
ATOM	665	CB	TRP	86	1.011	29.654	110.800	1.00	17.85	AAGL
ATOM	666	CG	TRP	86	0.672	30.016	109.399	1.00	18.75	AAGL
ATOM	667	CD2	TRP	86	1.587	30.427	108.382	1.00	18.96	AAGL
ATOM	668	CE2	TRP	86	0.832	30.649	107.209	1.00	21.98	AAGL
ATOM	669	CE3	TRP	86	2.975	30.628	108.345	1.00	18.78	AAGL
ATOM	670	CD1	TRP	86	-0.563	30.004	108.826	1.00	21.00	AAGL
ATOM	671	NE1	TRP	86	-0.478	30.386	107.508	1.00	21.68	AAGL
ATOM	672	CZ2	TRP	86	1.418	31.065	106.007	1.00	19.73	AAGL
ATOM	673	CZ3	TRP	86	3.556	31.041	107.151	1.00	20.30	AAGL
ATOM	674	CH2	TRP	86	2.775	31.255	105.998	1.00	18.40	AAGL
ATOM	675	C	TRP	86	1.757	27.994	112.467	1.00	18.54	AAGL
ATOM	676	O	TRP	86	0.847	27.998	113.302	1.00	17.68	AAGL
ATOM	677	N	ALA	87	3.035	27.830	112.793	1.00	15.65	AAGL
ATOM	678	CA	ALA	87	3.440	27.669	114.182	1.00	19.55	AAGL
ATOM	679	CB	ALA	87	4.263	26.393	114.355	1.00	17.55	AAGL
ATOM	680	C	ALA	87	4.266	28.880	114.613	1.00	17.89	AAGL
ATOM	681	O	ALA	87	5.179	29.303	113.896	1.00	18.09	AAGL
ATOM	682	N	ASP	88	3.933	29.441	115.772	1.00	18.18	AAGL
ATOM	683	CA	ASP	88	4.655	30.585	116.325	1.00	18.94	AAGL
ATOM	684	CB	ASP	88	4.276	31.885	115.604	1.00	21.76	AAGL
ATOM	685	CG	ASP	88	2.798	32.205	115.699	1.00	26.60	AAGL
ATOM	686	OD1	ASP	88	2.221	32.074	116.789	1.00	24.49	AAGL
ATOM	687	OD2	ASP	88	2.216	32.599	114.673	1.00	30.64	AAGL
ATOM	688	C	ASP	88	4.349	30.674	117.826	1.00	20.25	AAGL
ATOM	689	O	ASP	88	3.617	29.838	118.354	1.00	18.36	AAGL
ATOM	690	N	PRO	89	4.900	31.681	118.528	1.00	19.03	AAGL
ATOM	691	CD	PRO	89	5.879	32.685	118.078	1.00	20.41	AAGL
ATOM	692	CA	PRO	89	4.656	31.813	119.969	1.00	19.78	AAGL
ATOM	693	CB	PRO	89	5.435	33.071	120.339	1.00	22.34	AAGL
ATOM	694	CG	PRO	89	6.561	33.059	119.354	1.00	20.37	AAGL
ATOM	695	C	PRO	89	3.206	31.882	120.421	1.00	21.51	AAGL
ATOM	696	O	PRO	89	2.909	31.593	121.578	1.00	22.07	AAGL
ATOM	697	N	SER	90	2.297	32.251	119.527	1.00	20.56	AAGL
ATOM	698	CA	SER	90	0.904	32.335	119.924	1.00	21.51	AAGL
ATOM	699	CB	SER	90	0.283	33.644	119.425	1.00	24.67	AAGL
ATOM	700	OG	SER	90	0.139	33.643	118.023	1.00	29.17	AAGL
ATOM	701	C	SER	90	0.086	31.138	119.451	1.00	21.66	AAGL
ATOM	702	O	SER	90	-1.094	31.018	119.792	1.00	18.80	AAGL
ATOM	703	N	ASP	91	0.710	30.249	118.674	1.00	19.99	AAGL
ATOM	704	CA	ASP	91	0.025	29.052	118.188	1.00	21.82	AAGL
ATOM	705	CB	ASP	91	-0.839	29.374	116.961	1.00	26.37	AAGL
ATOM	706	CG	ASP	91	-2.057	30.208	117.305	0.50	27.60	AAGL
ATOM	707	OD1	ASP	91	-2.904	29.743	118.104	0.50	29.99	AAGL
ATOM	708	OD2	ASP	91	-2.168	31.328	116.770	0.50	29.72	AAGL
ATOM	709	C	ASP	91	0.974	27.912	117.816	1.00	19.33	AAGL
ATOM	710	O	ASP	91	1.713	27.997	116.834	1.00	20.80	AAGL
ATOM	711	N	GLN	92	0.945	26.851	118.614	1.00	16.40	AAGL
ATOM	712	CA	GLN	92	1.751	25.653	118.369	1.00	17.43	AAGL
ATOM	713	CB	GLN	92	2.820	25.482	119.449	1.00	16.72	AAGL
ATOM	714	CG	GLN	92	3.897	26.562	119.457	1.00	15.88	AAGL
ATOM	715	CD	GLN	92	4.894	26.427	118.319	1.00	16.69	AAGL
ATOM	716	OE1	GLN	92	5.078	25.345	117.770	1.00	18.84	AAGL
ATOM	717	NE2	GLN	92	5.550	27.524	117.970	1.00	15.00	AAGL
ATOM	718	C	GLN	92	0.782	24.472	118.403	1.00	17.98	AAGL
ATOM	719	O	GLN	92	0.855	23.615	119.284	1.00	18.87	AAGL
ATOM	720	N	THR	93	-0.140	24.444	117.450	1.00	18.32	AAGL
ATOM	721	CA	THR	93	-1.137	23.378	117.396	1.00	19.90	AAGL
ATOM	722	CB	THR	93	-2.303	23.732	116.451	1.00	21.83	AAGL
ATOM	723	OG1	THR	93	-2.845	25.001	116.824	1.00	23.30	AAGL
ATOM	724	CG2	THR	93	-3.415	22.691	116.564	1.00	23.34	AAGL
ATOM	725	C	THR	93	-0.553	22.052	116.946	1.00	19.51	AAGL

Fig. 3 cont.

98/174

ATOM	726	O	THR	93	0.000	21.935	115.856	1.00	19.99	AAGL
ATOM	727	N	THR	94	-0.685	21.050	117.802	1.00	19.55	AAGL
ATOM	728	CA	THR	94	-0.181	19.716	117.510	1.00	20.32	AAGL
ATOM	729	CB	THR	94	-0.463	18.775	118.699	1.00	20.34	AAGL
ATOM	730	OG1	THR	94	-0.320	19.190	119.824	1.00	20.72	AAGL
ATOM	731	CG2	THR	94	-0.141	17.334	118.348	1.00	20.41	AAGL
ATOM	732	C	THR	94	-0.866	19.171	116.261	1.00	19.20	AAGL
ATOM	733	O	THR	94	-2.060	19.367	116.071	1.00	19.04	AAGL
ATOM	734	N	PRO	95	-0.111	18.495	115.381	1.00	19.53	AAGL
ATOM	735	CD	PRO	95	1.352	18.315	115.386	1.00	17.38	AAGL
ATOM	736	CA	PRO	95	-0.703	17.937	114.160	1.00	20.73	AAGL
ATOM	737	CB	PRO	95	0.424	17.086	113.590	1.00	16.98	AAGL
ATOM	738	CG	PRO	95	1.638	17.872	113.952	1.00	20.07	AAGL
ATOM	739	C	PRO	95	-1.939	17.091	114.452	1.00	22.21	AAGL
ATOM	740	O	PRO	95	-2.002	16.399	115.468	1.00	19.37	AAGL
ATOM	741	N	SER	96	-2.926	17.163	113.569	1.00	23.26	AAGL
ATOM	742	CA	SER	96	-4.125	16.353	113.740	1.00	27.34	AAGL
ATOM	743	CB	SER	96	-5.153	16.695	112.656	1.00	29.38	AAGL
ATOM	744	OG	SER	96	-4.577	16.561	111.365	1.00	34.62	AAGL
ATOM	745	C	SER	96	-3.635	14.911	113.590	1.00	28.07	AAGL
ATOM	746	O	SER	96	-2.863	14.602	112.685	1.00	29.54	AAGL
ATOM	747	N	GLY	97	-4.064	14.029	114.482	1.00	28.91	AAGL
ATOM	748	CA	GLY	97	-3.607	12.655	114.390	1.00	28.58	AAGL
ATOM	749	C	GLY	97	-2.478	12.365	115.365	1.00	27.25	AAGL
ATOM	750	O	GLY	97	-2.214	11.202	115.679	1.00	28.56	AAGL
ATOM	751	N	TRP	98	-1.786	13.408	115.819	1.00	23.62	AAGL
ATOM	752	CA	TRP	98	-0.715	13.227	116.801	1.00	20.63	AAGL
ATOM	753	CB	TRP	98	0.396	14.250	116.590	1.00	20.68	AAGL
ATOM	754	CG	TRP	98	1.253	13.995	115.382	1.00	20.26	AAGL
ATOM	755	CD2	TRP	98	2.561	14.517	115.148	1.00	19.57	AAGL
ATOM	756	CE2	TRP	98	2.945	14.123	113.845	1.00	20.94	AAGL
ATOM	757	CE3	TRP	98	3.449	15.288	115.913	1.00	19.61	AAGL
ATOM	758	CD1	TRP	98	0.905	13.311	114.246	1.00	21.24	AAGL
ATOM	759	NE1	TRP	98	1.918	13.386	113.318	1.00	21.31	AAGL
ATOM	760	CZ2	TRP	98	4.178	14.475	113.290	1.00	20.47	AAGL
ATOM	761	CZ3	TRP	98	4.675	15.638	115.362	1.00	20.55	AAGL
ATOM	762	CH2	TRP	98	5.028	15.230	114.058	1.00	21.24	AAGL
ATOM	763	C	TRP	98	-1.348	13.397	118.190	1.00	21.31	AAGL
ATOM	764	O	TRP	98	-2.422	13.973	118.312	1.00	21.68	AAGL
ATOM	765	N	SER	99	-0.675	12.910	119.227	1.00	22.27	AAGL
ATOM	766	CA	SER	99	-1.210	12.951	120.591	1.00	20.04	AAGL
ATOM	767	CB	SER	99	-0.531	11.870	121.446	1.00	21.78	AAGL
ATOM	768	OG	SER	99	-1.115	11.794	122.746	1.00	19.99	AAGL
ATOM	769	C	SER	99	-1.172	14.262	121.377	1.00	20.81	AAGL
ATOM	770	O	SER	99	-0.174	14.974	121.391	1.00	20.17	AAGL
ATOM	771	N	THR	100	-2.284	14.555	122.039	1.00	21.47	AAGL
ATOM	772	CA	THR	100	-2.401	15.730	122.896	1.00	22.60	AAGL
ATOM	773	CB	THR	100	-3.564	16.655	122.455	1.00	22.41	AAGL
ATOM	774	OG1	THR	100	-4.759	15.882	122.308	1.00	23.06	AAGL
ATOM	775	CG2	THR	100	-3.248	17.339	121.128	1.00	22.11	AAGL
ATOM	776	C	THR	100	-2.706	15.190	124.294	1.00	23.80	AAGL
ATOM	777	O	THR	100	-3.150	15.930	125.174	1.00	23.03	AAGL
ATOM	778	N	THR	101	-2.448	13.895	124.488	1.00	24.54	AAGL
ATOM	779	CA	THR	101	-2.737	13.228	125.755	1.00	23.47	AAGL
ATOM	780	CB	THR	101	-4.055	12.440	125.638	1.00	24.48	AAGL
ATOM	781	OG1	THR	101	-3.897	11.412	124.652	1.00	25.27	AAGL
ATOM	782	CG2	THR	101	-5.198	13.356	125.213	1.00	25.93	AAGL
ATOM	783	C	THR	101	-1.679	12.256	126.301	1.00	25.35	AAGL
ATOM	784	O	THR	101	-1.794	11.802	127.437	1.00	25.05	AAGL
ATOM	785	N	ASP	102	-0.657	11.932	125.513	1.00	23.02	AAGL
ATOM	786	CA	ASP	102	0.366	10.989	125.968	1.00	24.03	AAGL
ATOM	787	CB	ASP	102	0.013	9.579	125.488	1.00	25.87	AAGL
ATOM	788	CG	ASP	102	0.934	8.515	126.052	1.00	29.80	AAGL
ATOM	789	OD1	ASP	102	2.163	8.600	125.864	1.00	30.75	AAGL
ATOM	790	OD2	ASP	102	0.425	7.571	126.683	1.00	35.27	AAGL
ATOM	791	C	ASP	102	1.746	11.370	125.446	1.00	24.10	AAGL
ATOM	792	O	ASP	102	2.005	11.269	124.245	1.00	24.23	AAGL

Fig. 3 cont.

99/174

ATOM	793	N	LEU	103	2.640	11.791	126.338	1.00	23.33	AAGL
ATOM	794	CA	LEU	103	3.974	12.189	125.898	1.00	23.77	AAGL
ATOM	795	CB	LEU	103	4.801	12.749	127.056	1.00	24.26	AAGL
ATOM	796	CG	LEU	103	6.113	13.383	126.579	1.00	23.41	AAGL
ATOM	797	CD1	LEU	103	5.800	14.627	125.765	1.00	23.25	AAGL
ATOM	798	CD2	LEU	103	7.005	13.729	127.764	1.00	24.01	AAGL
ATOM	799	C	LEU	103	4.744	11.046	125.257	1.00	24.93	AAGL
ATOM	800	O	LEU	103	5.522	11.259	124.326	1.00	22.87	AAGL
ATOM	801	N	GLY	104	4.535	9.837	125.765	1.00	24.55	AAGL
ATOM	802	CA	GLY	104	5.229	8.689	125.213	1.00	25.67	AAGL
ATOM	803	C	GLY	104	4.863	8.514	123.757	1.00	24.34	AAGL
ATOM	804	O	GLY	104	5.727	8.334	122.899	1.00	25.72	AAGL
ATOM	805	N	THR	105	3.571	8.571	123.475	1.00	23.33	AAGL
ATOM	806	CA	THR	105	3.084	8.425	122.115	1.00	24.93	AAGL
ATOM	807	CB	THR	105	1.546	8.360	122.095	1.00	25.14	AAGL
ATOM	808	OG1	THR	105	1.109	7.236	122.870	1.00	28.55	AAGL
ATOM	809	CG2	THR	105	1.029	8.211	120.684	1.00	27.78	AAGL
ATOM	810	C	THR	105	3.561	9.596	121.260	1.00	23.97	AAGL
ATOM	811	O	THR	105	4.008	9.412	120.132	1.00	24.40	AAGL
ATOM	812	N	LEU	106	3.485	10.802	121.812	1.00	22.92	AAGL
ATOM	813	CA	LEU	106	3.898	12.000	121.085	1.00	21.38	AAGL
ATOM	814	CB	LEU	106	3.568	13.254	121.896	1.00	19.99	AAGL
ATOM	815	CG	LEU	106	3.895	14.579	121.196	1.00	18.13	AAGL
ATOM	816	CD1	LEU	106	3.066	14.714	119.923	1.00	16.54	AAGL
ATOM	817	CD2	LEU	106	3.613	15.735	122.141	1.00	15.43	AAGL
ATOM	818	C	LEU	106	5.382	11.995	120.729	1.00	23.00	AAGL
ATOM	819	O	LEU	106	5.755	12.330	119.601	1.00	22.17	AAGL
ATOM	820	N	LYS	107	6.230	11.627	121.684	1.00	23.39	AAGL
ATOM	821	CA	LYS	107	7.662	11.578	121.420	1.00	24.69	AAGL
ATOM	822	CB	LYS	107	8.446	11.129	122.660	1.00	25.78	AAGL
ATOM	823	CG	LYS	107	8.496	12.144	123.789	1.00	27.94	AAGL
ATOM	824	CD	LYS	107	9.574	11.781	124.801	1.00	31.83	AAGL
ATOM	825	CE	LYS	107	9.360	10.393	125.384	1.00	36.44	AAGL
ATOM	826	NZ	LYS	107	10.431	10.009	126.355	1.00	39.34	AAGL
ATOM	827	C	LYS	107	7.942	10.609	120.278	1.00	24.60	AAGL
ATOM	828	O	LYS	107	8.829	10.852	119.461	1.00	24.29	AAGL
ATOM	829	N	TRP	108	7.183	9.518	120.220	1.00	24.58	AAGL
ATOM	830	CA	TRP	108	7.372	8.526	119.165	1.00	26.57	AAGL
ATOM	831	CB	TRP	108	6.616	7.231	119.487	1.00	30.79	AAGL
ATOM	832	CG	TRP	108	7.429	6.243	120.257	1.00	37.55	AAGL
ATOM	833	CD2	TRP	108	8.617	5.579	119.806	1.00	41.19	AAGL
ATOM	834	CE2	TRP	108	9.055	4.744	120.861	1.00	41.70	AAGL
ATOM	835	CE3	TRP	108	9.356	5.610	118.611	1.00	40.79	AAGL
ATOM	836	CD1	TRP	108	7.199	5.797	121.530	1.00	39.67	AAGL
ATOM	837	NE1	TRP	108	8.173	4.898	121.899	1.00	41.76	AAGL
ATOM	838	CZ2	TRP	108	10.202	3.942	120.760	1.00	42.41	AAGL
ATOM	839	CZ3	TRP	108	10.498	4.814	118.510	1.00	42.96	AAGL
ATOM	840	CH2	TRP	108	10.908	3.992	119.582	1.00	43.14	AAGL
ATOM	841	C	TRP	108	6.925	9.040	117.807	1.00	25.36	AAGL
ATOM	842	O	TRP	108	7.585	8.785	116.801	1.00	25.01	AAGL
ATOM	843	N	GLN	109	5.808	9.763	117.782	1.00	22.63	AAGL
ATOM	844	CA	GLN	109	5.277	10.304	116.539	1.00	22.94	AAGL
ATOM	845	CB	GLN	109	3.884	10.886	116.784	1.00	22.73	AAGL
ATOM	846	CG	GLN	109	2.863	9.838	117.229	1.00	24.36	AAGL
ATOM	847	CD	GLN	109	1.555	10.447	117.706	1.00	25.79	AAGL
ATOM	848	OE1	GLN	109	1.551	11.462	118.410	1.00	25.25	AAGL
ATOM	849	NE2	GLN	109	0.434	9.821	117.340	1.00	24.06	AAGL
ATOM	850	C	GLN	109	6.212	11.362	115.958	1.00	22.81	AAGL
ATOM	851	O	GLN	109	6.416	11.418	114.747	1.00	23.48	AAGL
ATOM	852	N	LEU	110	6.796	12.181	116.826	1.00	23.23	AAGL
ATOM	853	CA	LEU	110	7.716	13.223	116.389	1.00	23.80	AAGL
ATOM	854	CB	LEU	110	8.031	14.188	117.539	1.00	24.37	AAGL
ATOM	855	CG	LEU	110	9.119	15.231	117.255	1.00	22.16	AAGL
ATOM	856	CD1	LEU	110	8.792	15.973	115.960	1.00	22.25	AAGL
ATOM	857	CD2	LEU	110	9.230	16.199	118.420	1.00	23.11	AAGL
ATOM	858	C	LEU	110	9.005	12.596	115.870	1.00	25.82	AAGL
ATOM	859	O	LEU	110	9.523	13.010	114.835	1.00	24.35	AAGL

Fig. 3 cont.

100/174

ATOM	860	N	TYR	111	9.524	11.608	116.594	1.00	25.68	AAGL
ATOM	861	CA	TYR	111	10.746	10.915	116.179	1.00	24.78	AAGL
ATOM	862	CB	TYR	111	11.151	9.869	117.230	1.00	25.83	AAGL
ATOM	863	CG	TYR	111	12.199	8.874	116.767	1.00	27.35	AAGL
ATOM	864	CD1	TYR	111	11.848	7.774	115.986	1.00	29.55	AAGL
ATOM	865	CE1	TYR	111	12.810	6.866	115.544	1.00	31.93	AAGL
ATOM	866	CD2	TYR	111	13.541	9.043	117.099	1.00	28.41	AAGL
ATOM	867	CE2	TYR	111	14.514	8.143	116.661	1.00	32.12	AAGL
ATOM	868	CZ	TYR	111	14.143	7.060	115.882	1.00	31.55	AAGL
ATOM	869	OH	TYR	111	15.104	6.183	115.423	1.00	34.00	AAGL
ATOM	870	C	TYR	111	10.505	10.246	114.832	1.00	24.33	AAGL
ATOM	871	O	TYR	111	11.307	10.383	113.901	1.00	26.25	AAGL
ATOM	872	N	ASN	112	9.398	9.521	114.731	1.00	23.20	AAGL
ATOM	873	CA	ASN	112	9.042	8.842	113.492	1.00	24.57	AAGL
ATOM	874	CB	ASN	112	7.750	8.041	113.688	1.00	27.15	AAGL
ATOM	875	CG	ASN	112	7.963	6.757	114.473	0.50	25.91	AAGL
ATOM	876	OD1	ASN	112	7.010	6.023	114.752	0.50	29.07	AAGL
ATOM	877	ND2	ASN	112	9.209	6.475	114.825	0.50	26.44	AAGL
ATOM	878	C	ASN	112	8.865	9.865	112.364	1.00	26.29	AAGL
ATOM	879	O	ASN	112	9.227	9.607	111.211	1.00	23.16	AAGL
ATOM	880	N	TYR	113	8.317	11.028	112.702	1.00	23.87	AAGL
ATOM	881	CA	TYR	113	8.097	12.075	111.711	1.00	23.73	AAGL
ATOM	882	CB	TYR	113	7.328	13.239	112.315	1.00	23.08	AAGL
ATOM	883	CG	TYR	113	7.148	14.387	111.341	1.00	22.30	AAGL
ATOM	884	CD1	TYR	113	6.290	14.271	110.243	1.00	20.43	AAGL
ATOM	885	CE1	TYR	113	6.134	15.327	109.335	1.00	21.15	AAGL
ATOM	886	CD2	TYR	113	7.847	15.584	111.510	1.00	20.85	AAGL
ATOM	887	CE2	TYR	113	7.699	16.642	110.612	1.00	18.32	AAGL
ATOM	888	CZ	TYR	113	6.846	16.512	109.533	1.00	19.02	AAGL
ATOM	889	OH	TYR	113	6.706	17.562	108.654	1.00	18.05	AAGL
ATOM	890	C	TYR	113	9.391	12.613	111.111	1.00	23.40	AAGL
ATOM	891	O	TYR	113	9.561	12.611	109.891	1.00	24.13	AAGL
ATOM	892	N	THR	114	10.300	13.085	111.957	1.00	22.35	AAGL
ATOM	893	CA	THR	114	11.552	13.623	111.441	1.00	23.52	AAGL
ATOM	894	CB	THR	114	12.413	14.260	112.569	1.00	22.78	AAGL
ATOM	895	OG1	THR	114	12.714	13.292	113.578	1.00	23.02	AAGL
ATOM	896	CG2	THR	114	11.662	15.433	113.210	1.00	22.56	AAGL
ATOM	897	C	THR	114	12.339	12.530	110.711	1.00	24.38	AAGL
ATOM	898	O	THR	114	12.954	12.783	109.673	1.00	23.70	AAGL
ATOM	899	N	LEU	115	12.309	11.315	111.250	1.00	26.01	AAGL
ATOM	900	CA	LEU	115	12.995	10.189	110.618	1.00	26.48	AAGL
ATOM	901	CB	LEU	115	12.785	8.909	111.443	1.00	27.61	AAGL
ATOM	902	CG	LEU	115	13.278	7.573	110.853	1.00	28.64	AAGL
ATOM	903	CD1	LEU	115	14.787	7.644	110.546	1.00	29.41	AAGL
ATOM	904	CD2	LEU	115	12.991	6.434	111.836	1.00	31.02	AAGL
ATOM	905	C	LEU	115	12.432	10.002	109.208	1.00	27.33	AAGL
ATOM	906	O	LEU	115	13.180	9.902	108.236	1.00	29.69	AAGL
ATOM	907	N	GLU	116	11.106	9.979	109.102	1.00	27.14	AAGL
ATOM	908	CA	GLU	116	10.428	9.800	107.825	1.00	28.85	AAGL
ATOM	909	CB	GLU	116	8.919	9.674	108.057	1.00	33.11	AAGL
ATOM	910	CG	GLU	116	8.111	9.374	106.803	1.00	40.59	AAGL
ATOM	911	CD	GLU	116	8.196	7.914	106.368	1.00	44.26	AAGL
ATOM	912	OE1	GLU	116	7.696	7.603	105.266	1.00	47.23	AAGL
ATOM	913	OE2	GLU	116	8.744	7.073	107.118	1.00	47.05	AAGL
ATOM	914	C	GLU	116	10.707	10.952	106.853	1.00	28.50	AAGL
ATOM	915	O	GLU	116	10.936	10.730	105.667	1.00	28.60	AAGL
ATOM	916	N	VAL	117	10.671	12.184	107.354	1.00	25.75	AAGL
ATOM	917	CA	VAL	117	10.933	13.345	106.507	1.00	25.01	AAGL
ATOM	918	CB	VAL	117	10.841	14.657	107.303	1.00	25.08	AAGL
ATOM	919	CG1	VAL	117	11.393	15.810	106.473	1.00	24.84	AAGL
ATOM	920	CG2	VAL	117	9.390	14.924	107.685	1.00	25.17	AAGL
ATOM	921	C	VAL	117	12.321	13.256	105.894	1.00	25.14	AAGL
ATOM	922	O	VAL	117	12.488	13.445	104.684	1.00	26.07	AAGL
ATOM	923	N	CYS	118	13.313	12.982	106.734	1.00	22.94	AAGL
ATOM	924	CA	CYS	118	14.684	12.868	106.261	1.00	24.56	AAGL
ATOM	925	CB	CYS	118	15.644	12.710	107.446	1.00	24.73	AAGL
ATOM	926	SG	CYS	118	15.852	14.220	108.485	1.00	26.92	AAGL

Fig. 3 cont.

101/174

ATOM	927	C	CYS	118	14.810	11.682	105.289	1.00	25.33	AAGL
ATOM	928	O	CYS	118	15.417	11.813	104.228	1.00	25.49	AAGL
ATOM	929	N	ASN	119	14.224	10.537	105.638	1.00	25.35	AAGL
ATOM	930	CA	ASN	119	14.296	9.372	104.753	1.00	28.13	AAGL
ATOM	931	CB	ASN	119	13.618	8.156	105.382	1.00	28.39	AAGL
ATOM	932	CG	ASN	119	14.446	7.539	106.477	1.00	28.84	AAGL
ATOM	933	OD1	ASN	119	15.607	7.906	106.681	1.00	28.82	AAGL
ATOM	934	ND2	ASN	119	13.858	6.592	107.191	1.00	31.56	AAGL
ATOM	935	C	ASN	119	13.685	9.618	103.381	1.00	28.08	AAGL
ATOM	936	O	ASN	119	14.199	9.129	102.376	1.00	31.49	AAGL
ATOM	937	N	THR	120	12.594	10.372	103.326	1.00	28.01	AAGL
ATOM	938	CA	THR	120	11.952	10.641	102.046	1.00	27.89	AAGL
ATOM	939	CB	THR	120	10.596	11.321	102.231	1.00	30.29	AAGL
ATOM	940	OG1	THR	120	9.752	10.480	103.034	1.00	31.43	AAGL
ATOM	941	CG2	THR	120	9.926	11.536	100.873	1.00	30.28	AAGL
ATOM	942	C	THR	120	12.838	11.495	101.147	1.00	28.78	AAGL
ATOM	943	O	THR	120	12.869	11.290	99.933	1.00	29.09	AAGL
ATOM	944	N	PHE	121	13.557	12.452	101.728	1.00	28.45	AAGL
ATOM	945	CA	PHE	121	14.463	13.269	100.930	1.00	28.19	AAGL
ATOM	946	CB	PHE	121	14.985	14.461	101.741	1.00	29.04	AAGL
ATOM	947	CG	PHE	121	14.023	15.616	101.789	1.00	27.88	AAGL
ATOM	948	CD1	PHE	121	12.847	15.529	102.530	1.00	28.91	AAGL
ATOM	949	CD2	PHE	121	14.242	16.753	101.018	1.00	28.77	AAGL
ATOM	950	CE1	PHE	121	11.905	16.549	102.496	1.00	26.83	AAGL
ATOM	951	CE2	PHE	121	13.301	17.780	100.979	1.00	29.21	AAGL
ATOM	952	CZ	PHE	121	12.130	17.676	101.719	1.00	29.40	AAGL
ATOM	953	C	PHE	121	15.622	12.391	100.454	1.00	28.62	AAGL
ATOM	954	O	PHE	121	16.064	12.485	99.308	1.00	29.15	AAGL
ATOM	955	N	ALA	122	16.102	11.519	101.332	1.00	28.34	AAGL
ATOM	956	CA	ALA	122	17.187	10.622	100.964	1.00	29.64	AAGL
ATOM	957	CB	ALA	122	17.599	9.768	102.158	1.00	27.49	AAGL
ATOM	958	C	ALA	122	16.748	9.731	99.795	1.00	29.44	AAGL
ATOM	959	O	ALA	122	17.538	9.447	98.890	1.00	30.54	AAGL
ATOM	960	N	GLU	123	15.492	9.295	99.801	1.00	27.94	AAGL
ATOM	961	CA	GLU	123	15.004	8.448	98.720	1.00	28.60	AAGL
ATOM	962	CB	GLU	123	13.654	7.837	99.085	1.00	30.65	AAGL
ATOM	963	CG	GLU	123	13.693	7.161	100.439	1.00	35.94	AAGL
ATOM	964	CD	GLU	123	12.401	6.467	100.813	1.00	38.73	AAGL
ATOM	965	OE1	GLU	123	11.315	6.915	100.376	1.00	39.11	AAGL
ATOM	966	OE2	GLU	123	12.485	5.476	101.570	1.00	39.90	AAGL
ATOM	967	C	GLU	123	14.899	9.237	97.420	1.00	28.83	AAGL
ATOM	968	O	GLU	123	14.826	8.658	96.338	1.00	25.94	AAGL
ATOM	969	N	ASN	124	14.893	10.561	97.535	1.00	27.22	AAGL
ATOM	970	CA	ASN	124	14.825	11.434	96.366	1.00	26.84	AAGL
ATOM	971	CB	ASN	124	13.786	12.537	96.579	1.00	27.25	AAGL
ATOM	972	CG	ASN	124	12.367	12.067	96.302	1.00	28.47	AAGL
ATOM	973	OD1	ASN	124	11.888	12.130	95.168	1.00	28.23	AAGL
ATOM	974	ND2	ASN	124	11.691	11.580	97.336	1.00	30.75	AAGL
ATOM	975	C	ASN	124	16.186	12.063	96.085	1.00	26.40	AAGL
ATOM	976	O	ASN	124	16.290	13.015	95.315	1.00	25.52	AAGL
ATOM	977	N	ASP	125	17.223	11.538	96.726	1.00	26.35	AAGL
ATOM	978	CA	ASP	125	18.580	12.039	96.532	1.00	29.66	AAGL
ATOM	979	CB	ASP	125	19.066	11.654	95.131	1.00	31.58	AAGL
ATOM	980	CG	ASP	125	20.550	11.898	94.939	1.00	34.86	AAGL
ATOM	981	OD1	ASP	125	21.314	11.723	95.912	1.00	36.55	AAGL
ATOM	982	OD2	ASP	125	20.958	12.254	93.813	1.00	35.76	AAGL
ATOM	983	C	ASP	125	18.715	13.555	96.738	1.00	30.52	AAGL
ATOM	984	O	ASP	125	19.286	14.265	95.906	1.00	28.80	AAGL
ATOM	985	N	ILE	126	18.181	14.042	97.853	1.00	30.01	AAGL
ATOM	986	CA	ILE	126	18.270	15.458	98.200	1.00	30.54	AAGL
ATOM	987	CB	ILE	126	16.886	16.127	98.234	1.00	30.36	AAGL
ATOM	988	CG2	ILE	126	17.014	17.532	98.817	1.00	31.24	AAGL
ATOM	989	CG1	ILE	126	16.294	16.182	96.823	1.00	29.46	AAGL
ATOM	990	CD1	ILE	126	14.803	16.480	96.798	1.00	32.42	AAGL
ATOM	991	C	ILE	126	18.894	15.566	99.590	1.00	32.08	AAGL
ATOM	992	O	ILE	126	18.381	14.988	100.550	1.00	33.29	AAGL
ATOM	993	N	ASP	127	20.004	16.292	99.689	1.00	30.97	AAGL

Fig. 3 cont.

102/174

ATOM	994	CA	ASP	127	20.701	16.475	100.960	1.00	32.32	AAGL
ATOM	995	CB	ASP	127	22.181	16.777	100.719	1.00	36.39	AAGL
ATOM	996	CG	ASP	127	22.849	15.758	99.822	1.00	40.70	AAGL
ATOM	997	OD1	ASP	127	23.019	14.591	100.244	1.00	43.54	AAGL
ATOM	998	OD2	ASP	127	23.201	16.126	98.680	1.00	45.38	AAGL
ATOM	999	C	ASP	127	20.082	17.655	101.687	1.00	31.14	AAGL
ATOM	1000	O	ASP	127	19.643	18.616	101.053	1.00	30.94	AAGL
ATOM	1001	N	ILE	128	20.063	17.587	103.012	1.00	29.03	AAGL
ATOM	1002	CA	ILE	128	19.505	18.659	103.825	1.00	27.70	AAGL
ATOM	1003	CB	ILE	128	18.442	18.112	104.806	1.00	27.94	AAGL
ATOM	1004	CG2	ILE	128	17.866	19.250	105.645	1.00	25.95	AAGL
ATOM	1005	CG1	ILE	128	17.333	17.408	104.017	1.00	27.55	AAGL
ATOM	1006	CD1	ILE	128	16.289	16.716	104.883	1.00	29.46	AAGL
ATOM	1007	C	ILE	128	20.630	19.317	104.611	1.00	25.60	AAGL
ATOM	1008	O	ILE	128	21.370	18.645	105.328	1.00	28.07	AAGL
ATOM	1009	N	GLU	129	20.766	20.632	104.465	1.00	24.98	AAGL
ATOM	1010	CA	GLU	129	21.818	21.380	105.156	1.00	24.49	AAGL
ATOM	1011	CB	GLU	129	22.107	22.671	104.382	1.00	27.35	AAGL
ATOM	1012	CG	GLU	129	23.218	23.552	104.946	1.00	30.16	AAGL
ATOM	1013	CD	GLU	129	24.601	22.996	104.682	1.00	32.15	AAGL
ATOM	1014	OE1	GLU	129	24.720	22.097	103.821	1.00	32.40	AAGL
ATOM	1015	OE2	GLU	129	25.563	23.469	105.326	1.00	31.39	AAGL
ATOM	1016	C	GLU	129	21.418	21.713	106.593	1.00	24.14	AAGL
ATOM	1017	O	GLU	129	22.210	21.561	107.531	1.00	23.23	AAGL
ATOM	1018	N	ILE	130	20.184	22.174	106.761	1.00	22.11	AAGL
ATOM	1019	CA	ILE	130	19.696	22.535	108.083	1.00	20.15	AAGL
ATOM	1020	CB	ILE	130	19.719	24.065	108.301	1.00	21.07	AAGL
ATOM	1021	CG2	ILE	130	19.096	24.406	109.636	1.00	22.31	AAGL
ATOM	1022	CG1	ILE	130	21.147	24.601	108.233	1.00	20.04	AAGL
ATOM	1023	CD1	ILE	130	21.215	26.109	108.266	1.00	21.74	AAGL
ATOM	1024	C	ILE	130	18.256	22.091	108.265	1.00	20.32	AAGL
ATOM	1025	O	ILE	130	17.464	22.096	107.328	1.00	18.94	AAGL
ATOM	1026	N	ILE	131	17.920	21.696	109.480	1.00	21.44	AAGL
ATOM	1027	CA	ILE	131	16.551	21.316	109.759	1.00	22.36	AAGL
ATOM	1028	CB	ILE	131	16.324	19.791	109.544	1.00	23.90	AAGL
ATOM	1029	CG2	ILE	131	17.138	18.979	110.541	1.00	28.54	AAGL
ATOM	1030	CG1	ILE	131	14.826	19.488	109.629	1.00	26.48	AAGL
ATOM	1031	CD1	ILE	131	14.427	18.156	109.005	1.00	28.03	AAGL
ATOM	1032	C	ILE	131	16.253	21.765	111.185	1.00	21.53	AAGL
ATOM	1033	O	ILE	131	16.978	21.430	112.119	1.00	20.84	AAGL
ATOM	1034	N	SER	132	15.217	22.587	111.335	1.00	20.93	AAGL
ATOM	1035	CA	SER	132	14.859	23.089	112.654	1.00	19.31	AAGL
ATOM	1036	CB	SER	132	14.444	24.562	112.578	1.00	18.01	AAGL
ATOM	1037	OG	SER	132	13.232	24.709	111.869	1.00	21.72	AAGL
ATOM	1038	C	SER	132	13.720	22.261	113.221	1.00	19.27	AAGL
ATOM	1039	O	SER	132	12.766	21.930	112.520	1.00	19.32	AAGL
ATOM	1040	N	ILE	133	13.842	21.901	114.491	1.00	19.77	AAGL
ATOM	1041	CA	ILE	133	12.806	21.122	115.143	1.00	20.58	AAGL
ATOM	1042	CB	ILE	133	13.367	20.295	116.317	1.00	21.64	AAGL
ATOM	1043	CG2	ILE	133	12.297	19.334	116.823	1.00	18.97	AAGL
ATOM	1044	CG1	ILE	133	14.644	19.559	115.890	1.00	21.37	AAGL
ATOM	1045	CD1	ILE	133	14.515	18.774	114.605	1.00	25.39	AAGL
ATOM	1046	C	ILE	133	11.815	22.142	115.689	1.00	20.75	AAGL
ATOM	1047	O	ILE	133	11.890	22.529	116.850	1.00	21.44	AAGL
ATOM	1048	N	GLY	134	10.904	22.581	114.833	1.00	19.14	AAGL
ATOM	1049	CA	GLY	134	9.919	23.560	115.241	1.00	18.88	AAGL
ATOM	1050	C	GLY	134	10.240	24.936	114.690	1.00	18.31	AAGL
ATOM	1051	O	GLY	134	11.344	25.181	114.199	1.00	19.16	AAGL
ATOM	1052	N	ASN	135	9.268	25.835	114.769	1.00	16.66	AAGL
ATOM	1053	CA	ASN	135	9.427	27.201	114.289	1.00	16.54	AAGL
ATOM	1054	CB	ASN	135	8.507	27.457	113.097	1.00	15.67	AAGL
ATOM	1055	CG	ASN	135	8.666	28.854	112.532	1.00	20.06	AAGL
ATOM	1056	OD1	ASN	135	9.590	29.120	111.759	1.00	19.47	AAGL
ATOM	1057	ND2	ASN	135	7.773	29.762	112.932	1.00	14.55	AAGL
ATOM	1058	C	ASN	135	9.044	28.146	115.420	1.00	17.93	AAGL
ATOM	1059	O	ASN	135	7.940	28.063	115.935	1.00	16.64	AAGL
ATOM	1060	N	GLU	136	9.967	29.030	115.793	1.00	16.85	AAGL

Fig. 3 cont.

103/174

ATOM	1061	CA	GLU	136	9.760	30.001	116.865	1.00	17.43	AAGL
ATOM	1062	CB	GLU	136	8.892	31.169	116.371	1.00	18.10	AAGL
ATOM	1063	CG	GLU	136	9.517	31.970	115.228	1.00	17.17	AAGL
ATOM	1064	CD	GLU	136	8.747	33.240	114.867	1.00	18.85	AAGL
ATOM	1065	OE1	GLU	136	7.592	33.416	115.314	1.00	19.27	AAGL
ATOM	1066	OE2	GLU	136	9.305	34.071	114.120	1.00	18.05	AAGL
ATOM	1067	C	GLU	136	9.116	29.338	118.080	1.00	17.00	AAGL
ATOM	1068	O	GLU	136	8.013	29.697	118.478	1.00	18.88	AAGL
ATOM	1069	N	ILE	137	9.819	28.379	118.674	1.00	16.48	AAGL
ATOM	1070	CA	ILE	137	9.283	27.657	119.828	1.00	16.33	AAGL
ATOM	1071	CB	ILE	137	9.753	26.185	119.830	1.00	17.11	AAGL
ATOM	1072	CG2	ILE	137	9.204	25.457	118.615	1.00	18.25	AAGL
ATOM	1073	CG1	ILE	137	11.276	26.119	119.848	1.00	18.08	AAGL
ATOM	1074	CD1	ILE	137	11.822	24.717	120.029	1.00	19.03	AAGL
ATOM	1075	C	ILE	137	9.600	28.266	121.200	1.00	16.65	AAGL
ATOM	1076	O	ILE	137	9.770	27.540	122.178	1.00	18.23	AAGL
ATOM	1077	N	ARG	138	9.668	29.591	121.271	1.00	15.75	AAGL
ATOM	1078	CA	ARG	138	9.948	30.265	122.537	1.00	19.97	AAGL
ATOM	1079	CB	ARG	138	10.069	31.776	122.327	1.00	21.48	AAGL
ATOM	1080	CG	ARG	138	10.434	32.559	123.586	1.00	23.19	AAGL
ATOM	1081	CD	ARG	138	10.971	33.946	123.230	1.00	25.82	AAGL
ATOM	1082	NE	ARG	138	10.007	34.726	122.454	1.00	29.47	AAGL
ATOM	1083	CZ	ARG	138	8.900	35.263	122.956	1.00	29.69	AAGL
ATOM	1084	NH1	ARG	138	8.610	35.110	124.243	1.00	32.98	AAGL
ATOM	1085	NH2	ARG	138	8.075	35.939	122.168	1.00	29.53	AAGL
ATOM	1086	C	ARG	138	8.852	29.971	123.557	1.00	20.72	AAGL
ATOM	1087	O	ARG	138	9.112	29.926	124.755	1.00	22.83	AAGL
ATOM	1088	N	ALA	139	7.624	29.788	123.081	1.00	19.30	AAGL
ATOM	1089	CA	ALA	139	6.513	29.470	123.969	1.00	19.27	AAGL
ATOM	1090	CB	ALA	139	5.268	30.275	123.586	1.00	21.29	AAGL
ATOM	1091	C	ALA	139	6.227	27.971	123.893	1.00	20.13	AAGL
ATOM	1092	O	ALA	139	5.102	27.517	124.135	1.00	19.76	AAGL
ATOM	1093	N	GLY	140	7.264	27.207	123.565	1.00	16.96	AAGL
ATOM	1094	CA	GLY	140	7.124	25.769	123.465	1.00	17.78	AAGL
ATOM	1095	C	GLY	140	6.640	25.305	122.102	1.00	18.69	AAGL
ATOM	1096	O	GLY	140	6.669	26.058	121.119	1.00	15.87	AAGL
ATOM	1097	N	LEU	141	6.185	24.058	122.051	1.00	18.79	AAGL
ATOM	1098	CA	LEU	141	5.689	23.458	120.815	1.00	18.06	AAGL
ATOM	1099	CB	LEU	141	6.855	22.900	119.999	1.00	17.19	AAGL
ATOM	1100	CG	LEU	141	7.477	21.595	120.523	1.00	18.49	AAGL
ATOM	1101	CD1	LEU	141	8.404	21.018	119.457	1.00	17.04	AAGL
ATOM	1102	CD2	LEU	141	8.231	21.842	121.827	1.00	17.24	AAGL
ATOM	1103	C	LEU	141	4.741	22.310	121.145	1.00	17.11	AAGL
ATOM	1104	O	LEU	141	4.632	21.901	122.295	1.00	19.24	AAGL
ATOM	1105	N	LEU	142	4.063	21.795	120.126	1.00	15.85	AAGL
ATOM	1106	CA	LEU	142	3.162	20.664	120.293	1.00	16.79	AAGL
ATOM	1107	CB	LEU	142	3.981	19.370	120.301	1.00	17.91	AAGL
ATOM	1108	CG	LEU	142	4.783	19.127	119.017	1.00	18.45	AAGL
ATOM	1109	CD1	LEU	142	5.725	17.947	119.195	1.00	16.19	AAGL
ATOM	1110	CD2	LEU	142	3.827	18.888	117.861	1.00	18.62	AAGL
ATOM	1111	C	LEU	142	2.319	20.766	121.562	1.00	18.08	AAGL
ATOM	1112	O	LEU	142	2.374	19.909	122.440	1.00	18.47	AAGL
ATOM	1113	N	TRP	143	1.539	21.830	121.652	1.00	18.54	AAGL
ATOM	1114	CA	TRP	143	0.684	22.038	122.810	1.00	18.96	AAGL
ATOM	1115	CB	TRP	143	0.063	23.431	122.763	1.00	17.05	AAGL
ATOM	1116	CG	TRP	143	1.061	24.544	122.780	1.00	15.57	AAGL
ATOM	1117	CD2	TRP	143	0.807	25.920	122.475	1.00	16.04	AAGL
ATOM	1118	CE2	TRP	143	2.014	26.621	122.675	1.00	15.69	AAGL
ATOM	1119	CE3	TRP	143	-0.324	26.629	122.053	1.00	17.45	AAGL
ATOM	1120	CD1	TRP	143	2.375	24.468	123.139	1.00	15.44	AAGL
ATOM	1121	NE1	TRP	143	2.954	25.711	123.081	1.00	14.73	AAGL
ATOM	1122	CZ2	TRP	143	2.120	27.998	122.467	1.00	18.72	AAGL
ATOM	1123	CZ3	TRP	143	-0.215	28.000	121.848	1.00	20.29	AAGL
ATOM	1124	CH2	TRP	143	0.995	28.666	122.055	1.00	18.09	AAGL
ATOM	1125	C	TRP	143	-0.420	20.989	122.830	1.00	17.60	AAGL
ATOM	1126	O	TRP	143	-0.860	20.526	121.787	1.00	19.46	AAGL
ATOM	1127	N	PRO	144	-0.928	20.646	124.022	1.00	19.35	AAGL

Fig. 3 cont.

104/174

ATOM	1128	CD	PRO	144	-2.116	19.777	124.132	1.00	18.54	AAGL
ATOM	1129	CA	PRO	144	-0.549	21.167	125.340	1.00	18.49	AAGL
ATOM	1130	CB	PRO	144	-1.796	20.898	126.169	1.00	18.97	AAGL
ATOM	1131	CG	PRO	144	-2.228	19.560	125.628	1.00	20.05	AAGL
ATOM	1132	C	PRO	144	0.687	20.546	125.990	1.00	17.18	AAGL
ATOM	1133	O	PRO	144	1.303	21.162	126.855	1.00	17.80	AAGL
ATOM	1134	N	LEU	145	1.043	19.329	125.592	1.00	16.38	AAGL
ATOM	1135	CA	LEU	145	2.184	18.655	126.206	1.00	18.03	AAGL
ATOM	1136	CB	LEU	145	2.401	17.277	125.567	1.00	19.70	AAGL
ATOM	1137	CG	LEU	145	1.382	16.208	125.988	1.00	21.47	AAGL
ATOM	1138	CD1	LEU	145	1.529	14.966	125.133	1.00	24.17	AAGL
ATOM	1139	CD2	LEU	145	1.584	15.871	127.450	1.00	22.76	AAGL
ATOM	1140	C	LEU	145	3.482	19.449	126.189	1.00	18.55	AAGL
ATOM	1141	O	LEU	145	4.291	19.335	127.113	1.00	18.42	AAGL
ATOM	1142	N	GLY	146	3.671	20.262	125.152	1.00	18.88	AAGL
ATOM	1143	CA	GLY	146	4.884	21.050	125.045	1.00	18.53	AAGL
ATOM	1144	C	GLY	146	4.759	22.511	125.444	1.00	19.09	AAGL
ATOM	1145	O	GLY	146	5.509	23.351	124.948	1.00	17.40	AAGL
ATOM	1146	N	GLU	147	3.811	22.827	126.326	1.00	18.92	AAGL
ATOM	1147	CA	GLU	147	3.647	24.207	126.792	1.00	18.48	AAGL
ATOM	1148	CB	GLU	147	2.298	24.382	127.499	1.00	17.73	AAGL
ATOM	1149	CG	GLU	147	1.111	24.296	126.565	1.00	18.17	AAGL
ATOM	1150	CD	GLU	147	0.452	25.642	126.328	1.00	21.87	AAGL
ATOM	1151	OE1	GLU	147	1.137	26.684	126.464	1.00	24.40	AAGL
ATOM	1152	OE2	GLU	147	-0.751	25.655	125.997	1.00	22.11	AAGL
ATOM	1153	C	GLU	147	4.789	24.512	127.759	1.00	19.00	AAGL
ATOM	1154	O	GLU	147	5.421	23.589	128.287	1.00	20.89	AAGL
ATOM	1155	N	THR	148	5.046	25.797	128.003	1.00	18.85	AAGL
ATOM	1156	CA	THR	148	6.137	26.194	128.887	1.00	21.19	AAGL
ATOM	1157	CB	THR	148	6.486	27.705	128.746	1.00	21.41	AAGL
ATOM	1158	OG1	THR	148	5.307	28.498	128.908	1.00	23.59	AAGL
ATOM	1159	CG2	THR	148	7.095	27.987	127.379	1.00	21.18	AAGL
ATOM	1160	C	THR	148	5.889	25.868	130.354	1.00	21.42	AAGL
ATOM	1161	O	THR	148	6.711	26.180	131.207	1.00	21.58	AAGL
ATOM	1162	N	SER	149	4.753	25.251	130.656	1.00	20.92	AAGL
ATOM	1163	CA	SER	149	4.487	24.852	132.027	1.00	22.49	AAGL
ATOM	1164	CB	SER	149	2.990	24.593	132.228	1.00	20.24	AAGL
ATOM	1165	OG	SER	149	2.442	23.871	131.142	1.00	21.26	AAGL
ATOM	1166	C	SER	149	5.314	23.582	132.275	1.00	23.11	AAGL
ATOM	1167	O	SER	149	5.420	23.093	133.397	1.00	23.52	AAGL
ATOM	1168	N	SER	150	5.914	23.062	131.205	1.00	22.32	AAGL
ATOM	1169	CA	SER	150	6.749	21.868	131.299	1.00	22.70	AAGL
ATOM	1170	CB	SER	150	5.925	20.609	131.003	1.00	23.28	AAGL
ATOM	1171	OG	SER	150	6.735	19.445	131.058	1.00	24.36	AAGL
ATOM	1172	C	SER	150	7.946	21.937	130.345	1.00	22.43	AAGL
ATOM	1173	O	SER	150	7.909	21.386	129.246	1.00	22.55	AAGL
ATOM	1174	N	TYR	151	9.007	22.619	130.766	1.00	22.50	AAGL
ATOM	1175	CA	TYR	151	10.195	22.714	129.932	1.00	23.76	AAGL
ATOM	1176	CB	TYR	151	11.192	23.730	130.511	1.00	23.66	AAGL
ATOM	1177	CG	TYR	151	10.861	25.169	130.153	1.00	25.07	AAGL
ATOM	1178	CD1	TYR	151	10.054	25.950	130.978	1.00	22.33	AAGL
ATOM	1179	CE1	TYR	151	9.719	27.270	130.628	1.00	22.71	AAGL
ATOM	1180	CD2	TYR	151	11.329	25.740	128.965	1.00	24.38	AAGL
ATOM	1181	CE2	TYR	151	10.997	27.057	128.610	1.00	23.11	AAGL
ATOM	1182	CZ	TYR	151	10.195	27.812	129.446	1.00	22.47	AAGL
ATOM	1183	OH	TYR	151	9.881	29.113	129.116	1.00	23.02	AAGL
ATOM	1184	C	TYR	151	10.827	21.327	129.804	1.00	24.63	AAGL
ATOM	1185	O	TYR	151	11.627	21.070	128.903	1.00	23.36	AAGL
ATOM	1186	N	SER	152	10.441	20.427	130.703	1.00	25.50	AAGL
ATOM	1187	CA	SER	152	10.942	19.064	130.670	1.00	24.95	AAGL
ATOM	1188	CB	SER	152	10.539	18.325	131.945	1.00	25.80	AAGL
ATOM	1189	OG	SER	152	11.051	17.010	131.928	1.00	31.90	AAGL
ATOM	1190	C	SER	152	10.364	18.358	129.442	1.00	23.88	AAGL
ATOM	1191	O	SER	152	11.081	17.695	128.696	1.00	24.71	AAGL
ATOM	1192	N	ASN	153	9.059	18.502	129.229	1.00	24.00	AAGL
ATOM	1193	CA	ASN	153	8.414	17.885	128.075	1.00	22.02	AAGL
ATOM	1194	CB	ASN	153	6.901	18.108	128.132	1.00	21.03	AAGL

Fig. 3 cont.

105/174

ATOM	1195	CG	ASN	153	6.225	17.239	129.168	1.00	22.68	AAGL
ATOM	1196	OD1	ASN	153	6.888	16.579	129.971	1.00	21.72	AAGL
ATOM	1197	ND2	ASN	153	4.897	17.235	129.159	1.00	19.51	AAGL
ATOM	1198	C	ASN	153	8.970	18.486	126.782	1.00	21.57	AAGL
ATOM	1199	O	ASN	153	9.178	17.782	125.792	1.00	19.66	AAGL
ATOM	1200	N	ILE	154	9.192	19.797	126.798	1.00	20.58	AAGL
ATOM	1201	CA	ILE	154	9.733	20.490	125.636	1.00	21.12	AAGL
ATOM	1202	CB	ILE	154	9.922	21.988	125.909	1.00	21.27	AAGL
ATOM	1203	CG2	ILE	154	10.721	22.626	124.771	1.00	20.30	AAGL
ATOM	1204	CG1	ILE	154	8.563	22.666	126.092	1.00	20.35	AAGL
ATOM	1205	CD1	ILE	154	8.664	24.125	126.509	1.00	21.33	AAGL
ATOM	1206	C	ILE	154	11.097	19.901	125.304	1.00	22.17	AAGL
ATOM	1207	O	ILE	154	11.395	19.610	124.147	1.00	19.83	AAGL
ATOM	1208	N	GLY	155	11.920	19.735	126.337	1.00	23.65	AAGL
ATOM	1209	CA	GLY	155	13.246	19.181	126.147	1.00	24.02	AAGL
ATOM	1210	C	GLY	155	13.201	17.756	125.635	1.00	23.51	AAGL
ATOM	1211	O	GLY	155	13.968	17.384	124.745	1.00	23.80	AAGL
ATOM	1212	N	ALA	156	12.300	16.952	126.191	1.00	24.34	AAGL
ATOM	1213	CA	ALA	156	12.169	15.560	125.774	1.00	23.36	AAGL
ATOM	1214	CB	ALA	156	11.203	14.826	126.700	1.00	25.00	AAGL
ATOM	1215	C	ALA	156	11.701	15.457	124.324	1.00	23.25	AAGL
ATOM	1216	O	ALA	156	12.121	14.571	123.589	1.00	22.33	AAGL
ATOM	1217	N	LEU	157	10.831	16.371	123.911	1.00	22.39	AAGL
ATOM	1218	CA	LEU	157	10.340	16.376	122.538	1.00	21.31	AAGL
ATOM	1219	CB	LEU	157	9.161	17.343	122.408	1.00	20.00	AAGL
ATOM	1220	CG	LEU	157	7.868	16.843	123.059	1.00	22.93	AAGL
ATOM	1221	CD1	LEU	157	6.894	17.994	123.274	1.00	22.57	AAGL
ATOM	1222	CD2	LEU	157	7.260	15.751	122.164	1.00	21.07	AAGL
ATOM	1223	C	LEU	157	11.443	16.772	121.564	1.00	21.89	AAGL
ATOM	1224	O	LEU	157	11.616	16.146	120.518	1.00	20.81	AAGL
ATOM	1225	N	LEU	158	12.195	17.813	121.905	1.00	21.14	AAGL
ATOM	1226	CA	LEU	158	13.267	18.257	121.021	1.00	22.43	AAGL
ATOM	1227	CB	LEU	158	13.903	19.540	121.569	1.00	22.22	AAGL
ATOM	1228	CG	LEU	158	12.982	20.775	121.562	1.00	21.62	AAGL
ATOM	1229	CD1	LEU	158	13.640	21.917	122.316	1.00	21.34	AAGL
ATOM	1230	CD2	LEU	158	12.683	21.193	120.131	1.00	21.57	AAGL
ATOM	1231	C	LEU	158	14.299	17.133	120.880	1.00	24.78	AAGL
ATOM	1232	O	LEU	158	14.807	16.880	119.794	1.00	23.68	AAGL
ATOM	1233	N	HIS	159	14.584	16.457	121.990	1.00	24.81	AAGL
ATOM	1234	CA	HIS	159	15.518	15.332	122.009	1.00	26.46	AAGL
ATOM	1235	CB	HIS	159	15.566	14.738	123.423	1.00	27.84	AAGL
ATOM	1236	CG	HIS	159	16.473	13.553	123.563	1.00	30.73	AAGL
ATOM	1237	CD2	HIS	159	16.204	12.248	123.812	1.00	32.59	AAGL
ATOM	1238	ND1	HIS	159	17.845	13.651	123.482	1.00	31.02	AAGL
ATOM	1239	CE1	HIS	159	18.383	12.460	123.676	1.00	32.44	AAGL
ATOM	1240	NE2	HIS	159	17.409	11.592	123.880	1.00	33.23	AAGL
ATOM	1241	C	HIS	159	15.029	14.270	121.017	1.00	26.31	AAGL
ATOM	1242	O	HIS	159	15.796	13.772	120.190	1.00	26.14	AAGL
ATOM	1243	N	SER	160	13.749	13.922	121.110	1.00	25.57	AAGL
ATOM	1244	CA	SER	160	13.149	12.927	120.220	1.00	26.09	AAGL
ATOM	1245	CB	SER	160	11.679	12.695	120.590	1.00	26.91	AAGL
ATOM	1246	OG	SER	160	11.555	12.082	121.857	1.00	28.98	AAGL
ATOM	1247	C	SER	160	13.225	13.333	118.745	1.00	25.22	AAGL
ATOM	1248	O	SER	160	13.564	12.516	117.885	1.00	26.49	AAGL
ATOM	1249	N	GLY	161	12.890	14.586	118.452	1.00	22.94	AAGL
ATOM	1250	CA	GLY	161	12.934	15.051	117.078	1.00	22.94	AAGL
ATOM	1251	C	GLY	161	14.359	15.017	116.556	1.00	23.15	AAGL
ATOM	1252	O	GLY	161	14.631	14.541	115.450	1.00	23.15	AAGL
ATOM	1253	N	ALA	162	15.277	15.519	117.368	1.00	24.30	AAGL
ATOM	1254	CA	ALA	162	16.683	15.548	117.002	1.00	26.37	AAGL
ATOM	1255	CB	ALA	162	17.510	16.073	118.164	1.00	24.96	AAGL
ATOM	1256	C	ALA	162	17.172	14.160	116.598	1.00	27.69	AAGL
ATOM	1257	O	ALA	162	17.801	13.995	115.546	1.00	27.54	AAGL
ATOM	1258	N	TRP	163	16.876	13.159	117.423	1.00	27.38	AAGL
ATOM	1259	CA	TRP	163	17.320	11.806	117.124	1.00	26.93	AAGL
ATOM	1260	CB	TRP	163	17.222	10.929	118.368	1.00	28.85	AAGL
ATOM	1261	CG	TRP	163	18.386	11.181	119.245	1.00	31.71	AAGL

Fig. 3 cont.

106/174

ATOM	1262	CD2	TRP	163	19.668	10.565	119.134	1.00	32.43	AAGL
ATOM	1263	CE2	TRP	163	20.516	11.194	120.068	1.00	31.66	AAGL
ATOM	1264	CE3	TRP	163	20.185	9.541	118.329	1.00	32.40	AAGL
ATOM	1265	CD1	TRP	163	18.497	12.130	120.217	1.00	31.49	AAGL
ATOM	1266	NE1	TRP	163	19.776	12.149	120.715	1.00	32.86	AAGL
ATOM	1267	CZ2	TRP	163	21.858	10.836	120.223	1.00	32.68	AAGL
ATOM	1268	CZ3	TRP	163	21.522	9.184	118.479	1.00	32.50	AAGL
ATOM	1269	CH2	TRP	163	22.342	9.832	119.421	1.00	32.64	AAGL
ATOM	1270	C	TRP	163	16.636	11.144	115.952	1.00	27.25	AAGL
ATOM	1271	O	TRP	163	17.177	10.205	115.372	1.00	28.73	AAGL
ATOM	1272	N	GLY	164	15.448	11.613	115.598	1.00	25.57	AAGL
ATOM	1273	CA	GLY	164	14.782	11.045	114.445	1.00	24.90	AAGL
ATOM	1274	C	GLY	164	15.651	11.409	113.253	1.00	26.22	AAGL
ATOM	1275	O	GLY	164	15.831	10.618	112.326	1.00	26.72	AAGL
ATOM	1276	N	VAL	165	16.206	12.618	113.290	1.00	25.62	AAGL
ATOM	1277	CA	VAL	165	17.078	13.087	112.219	1.00	26.48	AAGL
ATOM	1278	CB	VAL	165	17.379	14.598	112.356	1.00	26.61	AAGL
ATOM	1279	CG1	VAL	165	18.398	15.026	111.293	1.00	23.67	AAGL
ATOM	1280	CG2	VAL	165	16.090	15.397	112.216	1.00	25.11	AAGL
ATOM	1281	C	VAL	165	18.406	12.328	112.251	1.00	27.69	AAGL
ATOM	1282	O	VAL	165	18.850	11.788	111.233	1.00	29.75	AAGL
ATOM	1283	N	LYS	166	19.037	12.295	113.420	1.00	27.66	AAGL
ATOM	1284	CA	LYS	166	20.313	11.607	113.581	1.00	29.81	AAGL
ATOM	1285	CB	LYS	166	20.770	11.661	115.045	1.00	29.36	AAGL
ATOM	1286	CG	LYS	166	21.062	13.060	115.590	1.00	30.72	AAGL
ATOM	1287	CD	LYS	166	21.442	12.982	117.065	1.00	33.25	AAGL
ATOM	1288	CE	LYS	166	21.674	14.358	117.677	1.00	33.72	AAGL
ATOM	1289	NZ	LYS	166	22.883	15.036	117.122	1.00	33.70	AAGL
ATOM	1290	C	LYS	166	20.229	10.144	113.136	1.00	31.30	AAGL
ATOM	1291	O	LYS	166	21.206	9.594	112.622	1.00	31.56	AAGL
ATOM	1292	N	ASP	167	19.065	9.519	113.319	1.00	30.83	AAGL
ATOM	1293	CA	ASP	167	18.893	8.116	112.944	1.00	32.56	AAGL
ATOM	1294	CB	ASP	167	17.863	7.442	113.854	1.00	31.71	AAGL
ATOM	1295	CG	ASP	167	18.387	7.187	115.245	1.00	33.01	AAGL
ATOM	1296	OD1	ASP	167	19.620	7.148	115.425	1.00	33.60	AAGL
ATOM	1297	OD2	ASP	167	17.558	7.006	116.160	1.00	32.14	AAGL
ATOM	1298	C	ASP	167	18.481	7.858	111.494	1.00	33.63	AAGL
ATOM	1299	O	ASP	167	18.347	6.696	111.082	1.00	32.89	AAGL
ATOM	1300	N	SER	168	18.280	8.925	110.724	1.00	31.74	AAGL
ATOM	1301	CA	SER	168	17.846	8.786	109.341	1.00	31.90	AAGL
ATOM	1302	CB	SER	168	17.279	10.111	108.823	1.00	29.91	AAGL
ATOM	1303	OG	SER	168	18.301	11.074	108.654	1.00	30.10	AAGL
ATOM	1304	C	SER	168	18.922	8.294	108.378	1.00	32.86	AAGL
ATOM	1305	O	SER	168	20.114	8.248	108.704	1.00	31.48	AAGL
ATOM	1306	N	ASN	169	18.470	7.950	107.179	1.00	34.44	AAGL
ATOM	1307	CA	ASN	169	19.328	7.430	106.123	1.00	37.26	AAGL
ATOM	1308	CB	ASN	169	18.493	6.545	105.195	1.00	38.60	AAGL
ATOM	1309	CG	ASN	169	17.848	5.377	105.925	1.00	37.67	AAGL
ATOM	1310	OD1	ASN	169	16.833	4.841	105.482	1.00	40.60	AAGL
ATOM	1311	ND2	ASN	169	18.440	4.971	107.044	1.00	39.67	AAGL
ATOM	1312	C	ASN	169	20.043	8.508	105.308	1.00	38.79	AAGL
ATOM	1313	O	ASN	169	20.725	8.194	104.324	1.00	39.86	AAGL
ATOM	1314	N	LEU	170	19.891	9.773	105.695	1.00	38.43	AAGL
ATOM	1315	CA	LEU	170	20.562	10.849	104.966	1.00	39.07	AAGL
ATOM	1316	CB	LEU	170	20.133	12.222	105.502	1.00	36.50	AAGL
ATOM	1317	CG	LEU	170	18.784	12.783	105.053	1.00	35.65	AAGL
ATOM	1318	CD1	LEU	170	18.533	14.122	105.733	1.00	36.42	AAGL
ATOM	1319	CD2	LEU	170	18.775	12.960	103.548	1.00	35.41	AAGL
ATOM	1320	C	LEU	170	22.068	10.672	105.146	1.00	40.51	AAGL
ATOM	1321	O	LEU	170	22.580	10.787	106.257	1.00	41.18	AAGL
ATOM	1322	N	ALA	171	22.770	10.392	104.050	1.00	43.25	AAGL
ATOM	1323	CA	ALA	171	24.219	10.180	104.078	1.00	44.92	AAGL
ATOM	1324	CB	ALA	171	24.796	10.430	102.700	1.00	45.32	AAGL
ATOM	1325	C	ALA	171	24.913	11.063	105.117	1.00	45.99	AAGL
ATOM	1326	O	ALA	171	25.671	10.568	105.962	1.00	47.05	AAGL
ATOM	1327	N	THR	172	24.668	12.370	105.044	1.00	46.11	AAGL
ATOM	1328	CA	THR	172	25.246	13.316	105.998	1.00	45.78	AAGL

Fig. 3 cont.

107/174

ATOM	1329	CB	THR	172	25.856	14.549	105.320	1.00	46.89	AAGL
ATOM	1330	OG1	THR	172	26.551	14.167	104.132	1.00	48.14	AAGL
ATOM	1331	CG2	THR	172	26.822	15.224	106.269	1.00	46.74	AAGL
ATOM	1332	C	THR	172	24.117	13.844	106.868	1.00	44.10	AAGL
ATOM	1333	O	THR	172	23.086	14.272	106.351	1.00	44.98	AAGL
ATOM	1334	N	THR	173	24.311	13.835	108.179	1.00	42.61	AAGL
ATOM	1335	CA	THR	173	23.283	14.319	109.088	1.00	39.37	AAGL
ATOM	1336	CB	THR	173	23.621	13.926	110.530	1.00	39.69	AAGL
ATOM	1337	OG1	THR	173	23.691	12.497	110.620	1.00	40.97	AAGL
ATOM	1338	CG2	THR	173	22.555	14.436	111.494	1.00	40.31	AAGL
ATOM	1339	C	THR	173	23.140	15.837	108.969	1.00	36.34	AAGL
ATOM	1340	O	THR	173	24.118	16.581	109.083	1.00	35.72	AAGL
ATOM	1341	N	PRO	174	21.916	16.319	108.702	1.00	33.51	AAGL
ATOM	1342	CD	PRO	174	20.709	15.592	108.274	1.00	33.11	AAGL
ATOM	1343	CA	PRO	174	21.728	17.766	108.580	1.00	30.76	AAGL
ATOM	1344	CB	PRO	174	20.252	17.891	108.223	1.00	31.41	AAGL
ATOM	1345	CG	PRO	174	19.989	16.624	107.452	1.00	33.06	AAGL
ATOM	1346	C	PRO	174	22.056	18.475	109.883	1.00	27.61	AAGL
ATOM	1347	O	PRO	174	22.074	17.865	110.945	1.00	26.79	AAGL
ATOM	1348	N	LYS	175	22.332	19.767	109.800	1.00	28.61	AAGL
ATOM	1349	CA	LYS	175	22.614	20.541	111.001	1.00	27.46	AAGL
ATOM	1350	CB	LYS	175	23.167	21.917	110.636	1.00	30.67	AAGL
ATOM	1351	CG	LYS	175	24.679	22.002	110.611	1.00	35.14	AAGL
ATOM	1352	CD	LYS	175	25.286	20.926	109.751	1.00	39.94	AAGL
ATOM	1353	CE	LYS	175	26.804	21.046	109.733	1.00	42.54	AAGL
ATOM	1354	NZ	LYS	175	27.396	20.867	111.091	1.00	43.56	AAGL
ATOM	1355	C	LYS	175	21.267	20.693	111.695	1.00	26.21	AAGL
ATOM	1356	O	LYS	175	20.297	21.096	111.068	1.00	25.54	AAGL
ATOM	1357	N	ILE	176	21.209	20.350	112.975	1.00	24.86	AAGL
ATOM	1358	CA	ILE	176	19.968	20.443	113.728	1.00	24.97	AAGL
ATOM	1359	CB	ILE	176	19.899	19.320	114.779	1.00	25.45	AAGL
ATOM	1360	CG2	ILE	176	18.689	19.515	115.676	1.00	25.15	AAGL
ATOM	1361	CG1	ILE	176	19.847	17.964	114.061	1.00	25.46	AAGL
ATOM	1362	CD1	ILE	176	20.148	16.775	114.941	1.00	26.04	AAGL
ATOM	1363	C	ILE	176	19.866	21.807	114.395	1.00	23.30	AAGL
ATOM	1364	O	ILE	176	20.752	22.208	115.136	1.00	24.10	AAGL
ATOM	1365	N	MET	177	18.769	22.507	114.127	1.00	23.38	AAGL
ATOM	1366	CA	MET	177	18.557	23.847	114.656	1.00	22.20	AAGL
ATOM	1367	CB	MET	177	18.401	24.837	113.488	1.00	20.47	AAGL
ATOM	1368	CG	MET	177	17.934	26.249	113.903	1.00	21.58	AAGL
ATOM	1369	SD	MET	177	17.586	27.336	112.488	1.00	22.93	AAGL
ATOM	1370	CE	MET	177	19.288	27.706	111.969	1.00	22.76	AAGL
ATOM	1371	C	MET	177	17.352	24.013	115.576	1.00	21.82	AAGL
ATOM	1372	O	MET	177	16.343	23.326	115.425	1.00	21.31	AAGL
ATOM	1373	N	ILE	178	17.485	24.927	116.534	1.00	20.60	AAGL
ATOM	1374	CA	ILE	178	16.395	25.294	117.433	1.00	21.53	AAGL
ATOM	1375	CB	ILE	178	16.750	25.134	118.932	1.00	22.17	AAGL
ATOM	1376	CG2	ILE	178	15.678	25.810	119.798	1.00	22.88	AAGL
ATOM	1377	CG1	ILE	178	16.830	23.647	119.286	1.00	23.39	AAGL
ATOM	1378	CD1	ILE	178	17.014	23.363	120.767	1.00	25.76	AAGL
ATOM	1379	C	ILE	178	16.204	26.766	117.088	1.00	19.40	AAGL
ATOM	1380	O	ILE	178	17.156	27.555	117.127	1.00	19.88	AAGL
ATOM	1381	N	HIS	179	14.971	27.125	116.751	1.00	18.62	AAGL
ATOM	1382	CA	HIS	179	14.632	28.475	116.312	1.00	18.14	AAGL
ATOM	1383	CB	HIS	179	14.054	28.356	114.899	1.00	17.60	AAGL
ATOM	1384	CG	HIS	179	13.454	29.617	114.363	1.00	18.42	AAGL
ATOM	1385	CD2	HIS	179	13.731	30.919	114.609	1.00	17.14	AAGL
ATOM	1386	ND1	HIS	179	12.438	29.611	113.432	1.00	18.37	AAGL
ATOM	1387	CE1	HIS	179	12.114	30.855	113.129	1.00	16.27	AAGL
ATOM	1388	NE2	HIS	179	12.883	31.668	113.830	1.00	17.92	AAGL
ATOM	1389	C	HIS	179	13.658	29.235	117.227	1.00	20.10	AAGL
ATOM	1390	O	HIS	179	12.541	28.780	117.470	1.00	20.46	AAGL
ATOM	1391	N	LEU	180	14.090	30.394	117.716	1.00	18.07	AAGL
ATOM	1392	CA	LEU	180	13.258	31.237	118.574	1.00	19.85	AAGL
ATOM	1393	CB	LEU	180	13.930	31.480	119.928	1.00	20.54	AAGL
ATOM	1394	CG	LEU	180	14.253	30.306	120.854	1.00	24.61	AAGL
ATOM	1395	CD1	LEU	180	14.701	30.866	122.208	1.00	23.57	AAGL

Fig. 3 cont.

108/174

ATOM	1396	CD2	LEU	180	13.038	29.405	121.029	1.00	22.59	AAGL
ATOM	1397	C	LEU	180	13.027	32.588	117.905	1.00	20.35	AAGL
ATOM	1398	O	LEU	180	13.838	33.032	117.099	1.00	20.34	AAGL
ATOM	1399	N	ASP	181	11.918	33.237	118.240	1.00	19.30	AAGL
ATOM	1400	CA	ASP	181	11.623	34.548	117.688	1.00	19.90	AAGL
ATOM	1401	CB	ASP	181	10.112	34.796	117.680	1.00	21.15	AAGL
ATOM	1402	CG	ASP	181	9.522	34.825	119.070	1.00	22.95	AAGL
ATOM	1403	OD1	ASP	181	9.910	33.973	119.900	1.00	22.67	AAGL
ATOM	1404	OD2	ASP	181	8.664	35.697	119.336	1.00	25.18	AAGL
ATOM	1405	C	ASP	181	12.315	35.580	118.576	1.00	21.86	AAGL
ATOM	1406	O	ASP	181	13.020	35.218	119.524	1.00	23.76	AAGL
ATOM	1407	N	ASP	182	12.107	36.856	118.271	1.00	22.19	AAGL
ATOM	1408	CA	ASP	182	12.718	37.948	119.034	1.00	22.68	AAGL
ATOM	1409	CB	ASP	182	12.013	38.129	120.381	1.00	24.73	AAGL
ATOM	1410	CG	ASP	182	10.589	38.605	120.234	1.00	26.20	AAGL
ATOM	1411	OD1	ASP	182	10.226	39.052	119.134	1.00	30.46	AAGL
ATOM	1412	OD2	ASP	182	9.829	38.539	121.226	1.00	30.54	AAGL
ATOM	1413	C	ASP	182	14.205	37.719	119.282	1.00	21.94	AAGL
ATOM	1414	O	ASP	182	14.645	37.656	120.432	1.00	22.68	AAGL
ATOM	1415	N	GLY	183	14.975	37.610	118.203	1.00	21.90	AAGL
ATOM	1416	CA	GLY	183	16.403	37.388	118.334	1.00	20.97	AAGL
ATOM	1417	C	GLY	183	17.158	38.524	119.003	1.00	21.01	AAGL
ATOM	1418	O	GLY	183	18.279	38.340	119.478	1.00	24.20	AAGL
ATOM	1419	N	TRP	184	16.550	39.701	119.045	1.00	23.43	AAGL
ATOM	1420	CA	TRP	184	17.191	40.859	119.655	1.00	25.63	AAGL
ATOM	1421	CB	TRP	184	16.514	42.141	119.173	1.00	24.89	AAGL
ATOM	1422	CG	TRP	184	15.045	42.120	119.376	1.00	27.09	AAGL
ATOM	1423	CD2	TRP	184	14.346	42.467	120.576	1.00	28.81	AAGL
ATOM	1424	CE2	TRP	184	12.971	42.248	120.336	1.00	28.20	AAGL
ATOM	1425	CE3	TRP	184	14.750	42.944	121.833	1.00	30.34	AAGL
ATOM	1426	CD1	TRP	184	14.098	41.717	118.481	1.00	27.72	AAGL
ATOM	1427	NE1	TRP	184	12.847	41.792	119.049	1.00	27.27	AAGL
ATOM	1428	CZ2	TRP	184	11.994	42.487	121.308	1.00	32.25	AAGL
ATOM	1429	CZ3	TRP	184	13.776	43.184	122.802	1.00	33.25	AAGL
ATOM	1430	CH2	TRP	184	12.414	42.954	122.533	1.00	30.56	AAGL
ATOM	1431	C	TRP	184	17.155	40.816	121.184	1.00	27.12	AAGL
ATOM	1432	O	TRP	184	17.869	41.563	121.850	1.00	26.68	AAGL
ATOM	1433	N	SER	185	16.332	39.935	121.742	1.00	26.77	AAGL
ATOM	1434	CA	SER	185	16.207	39.846	123.190	1.00	28.56	AAGL
ATOM	1435	CB	SER	185	14.739	39.648	123.558	1.00	28.06	AAGL
ATOM	1436	OG	SER	185	14.594	39.465	124.949	1.00	31.97	AAGL
ATOM	1437	C	SER	185	17.055	38.761	123.858	1.00	27.96	AAGL
ATOM	1438	O	SER	185	16.660	37.600	123.919	1.00	29.29	AAGL
ATOM	1439	N	TRP	186	18.218	39.142	124.374	1.00	27.87	AAGL
ATOM	1440	CA	TRP	186	19.091	38.176	125.032	1.00	27.87	AAGL
ATOM	1441	CB	TRP	186	20.380	38.853	125.511	1.00	29.10	AAGL
ATOM	1442	CG	TRP	186	21.165	38.036	126.509	1.00	27.39	AAGL
ATOM	1443	CD2	TRP	186	21.670	36.705	126.335	1.00	29.36	AAGL
ATOM	1444	CE2	TRP	186	22.338	36.352	127.531	1.00	30.06	AAGL
ATOM	1445	CE3	TRP	186	21.625	35.774	125.285	1.00	30.04	AAGL
ATOM	1446	CD1	TRP	186	21.534	38.422	127.765	1.00	29.38	AAGL
ATOM	1447	NE1	TRP	186	22.239	37.417	128.386	1.00	28.39	AAGL
ATOM	1448	CZ2	TRP	186	22.957	35.108	127.705	1.00	30.53	AAGL
ATOM	1449	CZ3	TRP	186	22.240	34.540	125.459	1.00	30.87	AAGL
ATOM	1450	CH2	TRP	186	22.898	34.218	126.662	1.00	31.05	AAGL
ATOM	1451	C	TRP	186	18.418	37.486	126.217	1.00	28.13	AAGL
ATOM	1452	O	TRP	186	18.620	36.291	126.445	1.00	27.04	AAGL
ATOM	1453	N	ASP	187	17.628	38.232	126.979	1.00	28.09	AAGL
ATOM	1454	CA	ASP	187	16.961	37.643	128.131	1.00	29.42	AAGL
ATOM	1455	CB	ASP	187	16.156	38.704	128.887	1.00	32.15	AAGL
ATOM	1456	CG	ASP	187	17.028	39.817	129.450	1.00	37.52	AAGL
ATOM	1457	OD1	ASP	187	18.255	39.612	129.611	1.00	39.29	AAGL
ATOM	1458	OD2	ASP	187	16.476	40.896	129.748	1.00	41.44	AAGL
ATOM	1459	C	ASP	187	16.035	36.488	127.724	1.00	28.91	AAGL
ATOM	1460	O	ASP	187	16.033	35.431	128.357	1.00	27.77	AAGL
ATOM	1461	N	GLN	188	15.250	36.691	126.668	1.00	27.43	AAGL
ATOM	1462	CA	GLN	188	14.326	35.657	126.215	1.00	27.67	AAGL

Fig. 3 cont.

109/174

ATOM	1463	CB	GLN	188	13.357	36.220	125.170	1.00	28.11	AAGL
ATOM	1464	CG	GLN	188	12.222	37.066	125.735	1.00	31.74	AAGL
ATOM	1465	CD	GLN	188	11.247	36.258	126.588	1.00	36.22	AAGL
ATOM	1466	OE1	GLN	188	10.921	35.103	126.274	1.00	36.68	AAGL
ATOM	1467	NE2	GLN	188	10.760	36.867	127.660	1.00	37.18	AAGL
ATOM	1468	C	GLN	188	15.061	34.456	125.641	1.00	26.39	AAGL
ATOM	1469	O	GLN	188	14.710	33.318	125.934	1.00	26.19	AAGL
ATOM	1470	N	GLN	189	16.086	34.712	124.829	1.00	25.52	AAGL
ATOM	1471	CA	GLN	189	16.864	33.633	124.225	1.00	24.65	AAGL
ATOM	1472	CB	GLN	189	17.997	34.191	123.351	1.00	24.63	AAGL
ATOM	1473	CG	GLN	189	17.576	34.991	122.126	1.00	24.46	AAGL
ATOM	1474	CD	GLN	189	16.736	34.191	121.149	1.00	21.93	AAGL
ATOM	1475	OE1	GLN	189	17.097	33.084	120.760	1.00	20.15	AAGL
ATOM	1476	NE2	GLN	189	15.613	34.759	120.739	1.00	23.53	AAGL
ATOM	1477	C	GLN	189	17.484	32.759	125.308	1.00	25.42	AAGL
ATOM	1478	O	GLN	189	17.314	31.544	125.324	1.00	23.58	AAGL
ATOM	1479	N	ASN	190	18.199	33.405	126.219	1.00	25.59	AAGL
ATOM	1480	CA	ASN	190	18.892	32.725	127.293	1.00	26.28	AAGL
ATOM	1481	CB	ASN	190	19.745	33.736	128.056	1.00	28.08	AAGL
ATOM	1482	CG	ASN	190	20.593	33.091	129.135	1.00	29.88	AAGL
ATOM	1483	OD1	ASN	190	21.204	32.041	128.922	1.00	29.87	AAGL
ATOM	1484	ND2	ASN	190	20.649	33.727	130.295	1.00	33.02	AAGL
ATOM	1485	C	ASN	190	17.978	31.970	128.250	1.00	26.80	AAGL
ATOM	1486	O	ASN	190	18.300	30.866	128.675	1.00	27.29	AAGL
ATOM	1487	N	TYR	191	16.838	32.554	128.590	1.00	27.59	AAGL
ATOM	1488	CA	TYR	191	15.931	31.878	129.504	1.00	27.82	AAGL
ATOM	1489	CB	TYR	191	14.735	32.767	129.832	1.00	28.23	AAGL
ATOM	1490	CG	TYR	191	13.815	32.132	130.844	1.00	30.08	AAGL
ATOM	1491	CD1	TYR	191	12.775	31.294	130.446	1.00	32.24	AAGL
ATOM	1492	CE1	TYR	191	11.975	30.641	131.385	1.00	33.28	AAGL
ATOM	1493	CD2	TYR	191	14.032	32.308	132.210	1.00	31.47	AAGL
ATOM	1494	CE2	TYR	191	13.240	31.662	133.157	1.00	31.82	AAGL
ATOM	1495	CZ	TYR	191	12.219	30.830	132.739	1.00	34.47	AAGL
ATOM	1496	OH	TYR	191	11.458	30.168	133.679	1.00	36.38	AAGL
ATOM	1497	C	TYR	191	15.443	30.551	128.929	1.00	27.27	AAGL
ATOM	1498	O	TYR	191	15.392	29.537	129.631	1.00	25.68	AAGL
ATOM	1499	N	PHE	192	15.079	30.557	127.651	1.00	25.48	AAGL
ATOM	1500	CA	PHE	192	14.605	29.341	127.016	1.00	26.24	AAGL
ATOM	1501	CB	PHE	192	14.260	29.593	125.541	1.00	24.60	AAGL
ATOM	1502	CG	PHE	192	13.854	28.351	124.799	1.00	22.89	AAGL
ATOM	1503	CD1	PHE	192	12.541	27.893	124.848	1.00	23.14	AAGL
ATOM	1504	CD2	PHE	192	14.795	27.607	124.098	1.00	22.70	AAGL
ATOM	1505	CE1	PHE	192	12.169	26.706	124.208	1.00	22.64	AAGL
ATOM	1506	CE2	PHE	192	14.439	26.417	123.455	1.00	22.68	AAGL
ATOM	1507	CZ	PHE	192	13.125	25.965	123.510	1.00	23.16	AAGL
ATOM	1508	C	PHE	192	15.651	28.237	127.095	1.00	26.50	AAGL
ATOM	1509	O	PHE	192	15.386	27.154	127.612	1.00	25.06	AAGL
ATOM	1510	N	TYR	193	16.847	28.513	126.577	1.00	26.97	AAGL
ATOM	1511	CA	TYR	193	17.898	27.510	126.570	1.00	28.47	AAGL
ATOM	1512	CB	TYR	193	19.066	27.991	125.704	1.00	25.93	AAGL
ATOM	1513	CG	TYR	193	18.675	28.113	124.243	1.00	26.36	AAGL
ATOM	1514	CD1	TYR	193	18.344	26.979	123.498	1.00	24.37	AAGL
ATOM	1515	CE1	TYR	193	17.905	27.084	122.178	1.00	23.29	AAGL
ATOM	1516	CD2	TYR	193	18.561	29.357	123.632	1.00	26.34	AAGL
ATOM	1517	CE2	TYR	193	18.121	29.474	122.307	1.00	24.57	AAGL
ATOM	1518	CZ	TYR	193	17.797	28.331	121.592	1.00	23.44	AAGL
ATOM	1519	OH	TYR	193	17.370	28.431	120.290	1.00	24.47	AAGL
ATOM	1520	C	TYR	193	18.384	27.087	127.952	1.00	28.72	AAGL
ATOM	1521	O	TYR	193	18.542	25.892	128.212	1.00	29.46	AAGL
ATOM	1522	N	GLU	194	18.610	28.046	128.844	1.00	30.56	AAGL
ATOM	1523	CA	GLU	194	19.081	27.684	130.177	1.00	32.74	AAGL
ATOM	1524	CB	GLU	194	19.344	28.921	131.048	1.00	36.66	AAGL
ATOM	1525	CG	GLU	194	20.119	28.543	132.325	1.00	42.88	AAGL
ATOM	1526	CD	GLU	194	20.271	29.668	133.327	1.00	46.55	AAGL
ATOM	1527	OE1	GLU	194	21.086	29.502	134.275	1.00	48.27	AAGL
ATOM	1528	OE2	GLU	194	19.580	30.704	133.194	1.00	47.67	AAGL
ATOM	1529	C	GLU	194	18.056	26.802	130.875	1.00	31.54	AAGL

Fig. 3 cont.

110/174

ATOM	1530	O	GLU	194	18.396	25.764	131.445	1.00	31.58	AAGL
ATOM	1531	N	THR	195	16.795	27.212	130.823	1.00	30.56	AAGL
ATOM	1532	CA	THR	195	15.731	26.453	131.468	1.00	28.40	AAGL
ATOM	1533	CB	THR	195	14.408	27.226	131.402	1.00	27.94	AAGL
ATOM	1534	OG1	THR	195	14.611	28.545	131.929	1.00	25.50	AAGL
ATOM	1535	CG2	THR	195	13.330	26.516	132.211	1.00	26.24	AAGL
ATOM	1536	C	THR	195	15.535	25.054	130.868	1.00	28.06	AAGL
ATOM	1537	O	THR	195	15.427	24.071	131.599	1.00	26.71	AAGL
ATOM	1538	N	VAL	196	15.486	24.961	129.545	1.00	27.08	AAGL
ATOM	1539	CA	VAL	196	15.301	23.666	128.902	1.00	27.16	AAGL
ATOM	1540	CB	VAL	196	15.035	23.838	127.369	1.00	29.10	AAGL
ATOM	1541	CG1	VAL	196	16.227	24.510	126.700	1.00	30.65	AAGL
ATOM	1542	CG2	VAL	196	14.748	22.487	126.727	1.00	31.18	AAGL
ATOM	1543	C	VAL	196	16.502	22.736	129.137	1.00	26.59	AAGL
ATOM	1544	O	VAL	196	16.330	21.563	129.449	1.00	25.06	AAGL
ATOM	1545	N	LEU	197	17.716	23.266	129.015	1.00	26.11	AAGL
ATOM	1546	CA	LEU	197	18.911	22.451	129.214	1.00	28.97	AAGL
ATOM	1547	CB	LEU	197	20.161	23.207	128.735	1.00	29.84	AAGL
ATOM	1549	CG	LEU	197	20.233	23.474	127.220	1.00	30.49	AAGL
ATOM	1549	CD1	LEU	197	21.377	24.445	126.927	1.00	32.56	AAGL
ATOM	1550	CD2	LEU	197	20.413	22.176	126.464	1.00	30.05	AAGL
ATOM	1551	C	LEU	197	19.069	22.032	130.674	1.00	28.89	AAGL
ATOM	1552	O	LEU	197	19.632	20.976	130.971	1.00	30.68	AAGL
ATOM	1553	N	ALA	198	18.550	22.844	131.586	1.00	29.81	AAGL
ATOM	1554	CA	ALA	198	18.646	22.530	133.008	1.00	30.14	AAGL
ATOM	1555	CB	ALA	198	18.110	23.688	133.831	1.00	29.46	AAGL
ATOM	1556	C	ALA	198	17.913	21.237	133.387	1.00	31.06	AAGL
ATOM	1557	O	ALA	198	18.223	20.624	134.411	1.00	30.62	AAGL
ATOM	1558	N	THR	199	16.951	20.814	132.569	1.00	30.12	AAGL
ATOM	1559	CA	THR	199	16.192	19.599	132.868	1.00	29.04	AAGL
ATOM	1560	CB	THR	199	14.831	19.569	132.137	1.00	30.14	AAGL
ATOM	1561	OG1	THR	199	15.051	19.375	130.735	1.00	28.92	AAGL
ATOM	1562	CG2	THR	199	14.058	20.876	132.351	1.00	28.52	AAGL
ATOM	1563	C	THR	199	16.926	18.308	132.497	1.00	30.21	AAGL
ATOM	1564	O	THR	199	16.602	17.237	133.006	1.00	31.94	AAGL
ATOM	1565	N	GLY	200	17.907	18.406	131.613	1.00	29.95	AAGL
ATOM	1566	CA	GLY	200	18.626	17.219	131.194	1.00	30.95	AAGL
ATOM	1567	C	GLY	200	17.868	16.428	130.143	1.00	31.30	AAGL
ATOM	1568	O	GLY	200	18.376	15.436	129.625	1.00	31.90	AAGL
ATOM	1569	N	GLU	201	16.647	16.850	129.823	1.00	31.18	AAGL
ATOM	1570	CA	GLU	201	15.856	16.145	128.813	1.00	30.31	AAGL
ATOM	1571	CB	GLU	201	14.385	16.557	128.881	1.00	29.74	AAGL
ATOM	1572	CG	GLU	201	13.640	16.062	130.110	1.00	32.87	AAGL
ATOM	1573	CD	GLU	201	13.710	14.555	130.285	1.00	33.76	AAGL
ATOM	1574	OE1	GLU	201	13.838	13.833	129.274	1.00	34.18	AAGL
ATOM	1575	OE2	GLU	201	13.617	14.086	131.443	1.00	34.63	AAGL
ATOM	1576	C	GLU	201	16.399	16.440	127.423	1.00	28.94	AAGL
ATOM	1577	O	GLU	201	16.271	15.625	126.511	1.00	27.79	AAGL
ATOM	1578	N	LEU	202	16.988	17.623	127.272	1.00	28.10	AAGL
ATOM	1579	CA	LEU	202	17.587	18.033	126.009	1.00	28.10	AAGL
ATOM	1580	CB	LEU	202	17.029	19.376	125.548	1.00	28.75	AAGL
ATOM	1581	CG	LEU	202	17.766	19.987	124.350	1.00	27.26	AAGL
ATOM	1582	CD1	LEU	202	17.461	19.196	123.090	1.00	27.62	AAGL
ATOM	1583	CD2	LEU	202	17.337	21.430	124.178	1.00	29.02	AAGL
ATOM	1584	C	LEU	202	19.088	18.170	126.240	1.00	28.79	AAGL
ATOM	1585	O	LEU	202	19.518	18.888	127.141	1.00	29.33	AAGL
ATOM	1586	N	LEU	203	19.875	17.473	125.433	1.00	29.74	AAGL
ATOM	1587	CA	LEU	203	21.326	17.524	125.557	1.00	32.35	AAGL
ATOM	1588	CB	LEU	203	21.920	16.146	125.271	1.00	33.32	AAGL
ATOM	1589	CG	LEU	203	21.643	15.084	126.328	1.00	33.68	AAGL
ATOM	1590	CD1	LEU	203	22.436	13.828	125.998	1.00	38.12	AAGL
ATOM	1591	CD2	LEU	203	22.053	15.615	127.694	1.00	37.93	AAGL
ATOM	1592	C	LEU	203	21.934	18.541	124.603	1.00	32.26	AAGL
ATOM	1593	O	LEU	203	21.475	18.694	123.474	1.00	33.19	AAGL
ATOM	1594	N	SER	204	22.975	19.231	125.055	1.00	33.40	AAGL
ATOM	1595	CA	SER	204	23.634	20.215	124.213	1.00	34.27	AAGL
ATOM	1596	CB	SER	204	24.824	20.826	124.947	1.00	34.70	AAGL

Fig. 3 cont.

111/174

ATOM	1597	OG	SER	204	25.380	21.894	124.194	1.00	36.69	AAGL
ATOM	1598	C	SER	204	24.103	19.529	122.934	1.00	34.03	AAGL
ATOM	1599	O	SER	204	24.163	20.145	121.871	1.00	35.28	AAGL
ATOM	1600	N	THR	205	24.438	18.248	123.043	1.00	32.63	AAGL
ATOM	1601	CA	THR	205	24.890	17.491	121.880	1.00	33.11	AAGL
ATOM	1602	CB	THR	205	25.650	16.204	122.302	1.00	33.97	AAGL
ATOM	1603	OG1	THR	205	24.875	15.458	123.256	1.00	35.21	AAGL
ATOM	1604	CG2	THR	205	26.989	16.572	122.919	1.00	34.51	AAGL
ATOM	1605	C	THR	205	23.737	17.111	120.951	1.00	32.07	AAGL
ATOM	1606	O	THR	205	23.960	16.584	119.865	1.00	32.54	AAGL
ATOM	1607	N	ASP	206	22.504	17.389	121.367	1.00	30.83	AAGL
ATOM	1608	CA	ASP	206	21.352	17.054	120.536	1.00	29.51	AAGL
ATOM	1609	CB	ASP	206	20.060	17.033	121.351	1.00	28.56	AAGL
ATOM	1610	CG	ASP	206	19.996	15.871	122.315	1.00	31.99	AAGL
ATOM	1611	OD1	ASP	206	20.539	14.791	121.990	1.00	30.07	AAGL
ATOM	1612	OD2	ASP	206	19.385	16.037	123.390	1.00	30.30	AAGL
ATOM	1613	C	ASP	206	21.151	17.986	119.352	1.00	28.75	AAGL
ATOM	1614	O	ASP	206	20.514	17.597	118.376	1.00	29.56	AAGL
ATOM	1615	N	PHE	207	21.653	19.217	119.437	1.00	27.57	AAGL
ATOM	1616	CA	PHE	207	21.496	20.147	118.321	1.00	27.18	AAGL
ATOM	1617	CB	PHE	207	20.315	21.106	118.567	1.00	24.79	AAGL
ATOM	1618	CG	PHE	207	20.541	22.115	119.651	1.00	24.63	AAGL
ATOM	1619	CD1	PHE	207	20.643	21.728	120.981	1.00	26.07	AAGL
ATOM	1620	CD2	PHE	207	20.613	23.473	119.341	1.00	26.18	AAGL
ATOM	1621	CE1	PHE	207	20.811	22.677	121.986	1.00	23.87	AAGL
ATOM	1622	CE2	PHE	207	20.782	24.433	120.340	1.00	24.35	AAGL
ATOM	1623	CZ	PHE	207	20.880	24.032	121.661	1.00	26.22	AAGL
ATOM	1624	C	PHE	207	22.767	20.917	117.974	1.00	27.60	AAGL
ATOM	1625	O	PHE	207	23.700	20.987	118.772	1.00	28.27	AAGL
ATOM	1626	N	ASP	208	22.784	21.503	116.780	1.00	28.39	AAGL
ATOM	1627	CA	ASP	208	23.958	22.209	116.278	1.00	28.84	AAGL
ATOM	1628	CB	ASP	208	24.329	21.618	114.918	1.00	28.97	AAGL
ATOM	1629	CG	ASP	208	24.337	20.102	114.930	1.00	29.39	AAGL
ATOM	1630	OD1	ASP	208	25.139	19.521	115.686	1.00	30.72	AAGL
ATOM	1631	OD2	ASP	208	23.537	19.494	114.187	1.00	30.15	AAGL
ATOM	1632	C	ASP	208	23.910	23.737	116.143	1.00	28.85	AAGL
ATOM	1633	O	ASP	208	24.866	24.418	116.520	1.00	28.49	AAGL
ATOM	1634	N	TYR	209	22.817	24.263	115.595	1.00	26.19	AAGL
ATOM	1635	CA	TYR	209	22.674	25.704	115.368	1.00	25.08	AAGL
ATOM	1636	CB	TYR	209	22.353	26.001	113.896	1.00	26.01	AAGL
ATOM	1637	CG	TYR	209	23.397	25.677	112.854	1.00	23.51	AAGL
ATOM	1638	CD1	TYR	209	24.728	25.427	113.191	1.00	27.73	AAGL
ATOM	1639	CE1	TYR	209	25.693	25.222	112.194	1.00	27.06	AAGL
ATOM	1640	CD2	TYR	209	23.056	25.705	111.506	1.00	26.41	AAGL
ATOM	1641	CE2	TYR	209	24.007	25.503	110.505	1.00	29.44	AAGL
ATOM	1642	CZ	TYR	209	25.318	25.267	110.856	1.00	25.86	AAGL
ATOM	1643	OH	TYR	209	26.244	25.103	109.853	1.00	26.38	AAGL
ATOM	1644	C	TYR	209	21.578	26.398	116.163	1.00	23.78	AAGL
ATOM	1645	O	TYR	209	20.611	25.774	116.589	1.00	23.59	AAGL
ATOM	1646	N	PHE	210	21.745	27.711	116.315	1.00	25.60	AAGL
ATOM	1647	CA	PHE	210	20.775	28.584	116.969	1.00	24.58	AAGL
ATOM	1648	CB	PHE	210	21.441	29.576	117.918	1.00	25.18	AAGL
ATOM	1649	CG	PHE	210	21.826	29.004	119.234	1.00	26.35	AAGL
ATOM	1650	CD1	PHE	210	20.895	28.309	120.004	1.00	26.01	AAGL
ATOM	1651	CD2	PHE	210	23.104	29.214	119.741	1.00	26.73	AAGL
ATOM	1652	CE1	PHE	210	21.234	27.836	121.269	1.00	28.08	AAGL
ATOM	1653	CE2	PHE	210	23.453	28.746	121.000	1.00	29.00	AAGL
ATOM	1654	CZ	PHE	210	22.519	28.057	121.768	1.00	28.84	AAGL
ATOM	1655	C	PHE	210	20.167	29.402	115.842	1.00	25.37	AAGL
ATOM	1656	O	PHE	210	20.894	29.932	115.005	1.00	26.01	AAGL
ATOM	1657	N	GLY	211	18.845	29.514	115.817	1.00	22.48	AAGL
ATOM	1658	CA	GLY	211	18.214	30.313	114.784	1.00	21.15	AAGL
ATOM	1659	C	GLY	211	17.305	31.333	115.441	1.00	20.32	AAGL
ATOM	1660	O	GLY	211	16.631	31.007	116.412	1.00	22.35	AAGL
ATOM	1661	N	VAL	212	17.285	32.560	114.931	1.00	20.60	AAGL
ATOM	1662	CA	VAL	212	16.428	33.595	115.501	1.00	19.19	AAGL
ATOM	1663	CB	VAL	212	17.206	34.592	116.400	1.00	20.57	AAGL

Fig. 3 cont.

112/174

ATOM	1664	CG1	VAL	212	17.920	33.859	117.512	1.00	21.04	AAGL
ATOM	1665	CG2	VAL	212	18.169	35.419	115.554	1.00	22.31	AAGL
ATOM	1666	C	VAL	212	15.781	34.426	114.410	1.00	19.78	AAGL
ATOM	1667	O	VAL	212	16.358	34.616	113.339	1.00	19.10	AAGL
ATOM	1668	N	SER	213	14.581	34.914	114.692	1.00	18.35	AAGL
ATOM	1669	CA	SER	213	13.869	35.775	113.758	1.00	19.01	AAGL
ATOM	1670	CB	SER	213	12.353	35.630	113.933	1.00	18.11	AAGL
ATOM	1671	OG	SER	213	11.934	34.305	113.696	1.00	17.61	AAGL
ATOM	1672	C	SER	213	14.277	37.187	114.148	1.00	18.11	AAGL
ATOM	1673	O	SER	213	14.506	37.461	115.323	1.00	21.77	AAGL
ATOM	1674	N	TYR	214	14.384	38.081	113.174	1.00	17.30	AAGL
ATOM	1675	CA	TYR	214	14.744	39.458	113.478	1.00	17.43	AAGL
ATOM	1676	CB	TYR	214	16.252	39.688	113.352	1.00	19.55	AAGL
ATOM	1677	CG	TYR	214	16.647	41.122	113.624	1.00	18.83	AAGL
ATOM	1678	CD1	TYR	214	16.558	41.661	114.911	1.00	22.19	AAGL
ATOM	1679	CE1	TYR	214	16.872	43.004	115.158	1.00	22.03	AAGL
ATOM	1680	CD2	TYR	214	17.063	41.959	112.590	1.00	23.69	AAGL
ATOM	1681	CE2	TYR	214	17.381	43.307	112.828	1.00	22.60	AAGL
ATOM	1682	CZ	TYR	214	17.279	43.816	114.113	1.00	22.17	AAGL
ATOM	1683	OH	TYR	214	17.561	45.141	114.346	1.00	24.19	AAGL
ATOM	1684	C	TYR	214	14.013	40.386	112.534	1.00	18.48	AAGL
ATOM	1685	O	TYR	214	14.361	40.488	111.358	1.00	18.33	AAGL
ATOM	1686	N	TYR	215	12.990	41.048	113.067	1.00	18.28	AAGL
ATOM	1687	CA	TYR	215	12.171	41.979	112.311	1.00	16.96	AAGL
ATOM	1688	CB	TYR	215	10.717	41.506	112.321	1.00	16.58	AAGL
ATOM	1689	CG	TYR	215	10.497	40.277	111.465	1.00	16.72	AAGL
ATOM	1690	CD1	TYR	215	10.456	40.377	110.075	1.00	19.62	AAGL
ATOM	1691	CE1	TYR	215	10.264	39.252	109.274	1.00	18.54	AAGL
ATOM	1692	CD2	TYR	215	10.346	39.013	112.038	1.00	16.88	AAGL
ATOM	1693	CE2	TYR	215	10.156	37.875	111.245	1.00	17.19	AAGL
ATOM	1694	CZ	TYR	215	10.111	38.007	109.862	1.00	16.90	AAGL
ATOM	1695	OH	TYR	215	9.868	36.910	109.064	1.00	17.46	AAGL
ATOM	1696	C	TYR	215	12.297	43.374	112.920	1.00	19.56	AAGL
ATOM	1697	O	TYR	215	12.487	43.523	114.124	1.00	19.95	AAGL
ATOM	1698	N	PRO	216	12.184	44.418	112.087	1.00	20.63	AAGL
ATOM	1699	CD	PRO	216	12.160	44.396	110.613	1.00	20.25	AAGL
ATOM	1700	CA	PRO	216	12.308	45.788	112.589	1.00	20.50	AAGL
ATOM	1701	CB	PRO	216	13.033	46.476	111.450	1.00	22.26	AAGL
ATOM	1702	CG	PRO	216	12.318	45.881	110.243	1.00	20.29	AAGL
ATOM	1703	C	PRO	216	11.005	46.503	112.922	1.00	21.80	AAGL
ATOM	1704	O	PRO	216	11.021	47.552	113.569	1.00	23.06	AAGL
ATOM	1705	N	PHE	217	9.885	45.934	112.495	1.00	20.15	AAGL
ATOM	1706	CA	PHE	217	8.599	46.580	112.682	1.00	19.12	AAGL
ATOM	1707	CB	PHE	217	7.940	46.729	111.308	1.00	21.27	AAGL
ATOM	1708	CG	PHE	217	8.166	45.548	110.390	1.00	22.97	AAGL
ATOM	1709	CD1	PHE	217	7.783	44.263	110.773	1.00	22.42	AAGL
ATOM	1710	CD2	PHE	217	8.733	45.730	109.129	1.00	24.02	AAGL
ATOM	1711	CE1	PHE	217	7.953	43.177	109.912	1.00	22.58	AAGL
ATOM	1712	CE2	PHE	217	8.910	44.651	108.260	1.00	22.45	AAGL
ATOM	1713	CZ	PHE	217	8.518	43.372	108.652	1.00	22.51	AAGL
ATOM	1714	C	PHE	217	7.586	46.016	113.671	1.00	20.44	AAGL
ATOM	1715	O	PHE	217	6.391	46.271	113.523	1.00	21.67	AAGL
ATOM	1716	N	TYR	218	8.040	45.270	114.676	1.00	22.47	AAGL
ATOM	1717	CA	TYR	218	7.130	44.715	115.688	1.00	23.80	AAGL
ATOM	1718	CB	TYR	218	7.155	43.177	115.681	1.00	24.44	AAGL
ATOM	1719	CG	TYR	218	6.583	42.525	114.439	1.00	21.12	AAGL
ATOM	1720	CD1	TYR	218	5.331	42.891	113.952	1.00	22.80	AAGL
ATOM	1721	CE1	TYR	218	4.789	42.281	112.815	1.00	25.22	AAGL
ATOM	1722	CD2	TYR	218	7.286	41.528	113.763	1.00	23.62	AAGL
ATOM	1723	CE2	TYR	218	6.753	40.910	112.625	1.00	23.28	AAGL
ATOM	1724	CZ	TYR	218	5.504	41.294	112.159	1.00	24.22	AAGL
ATOM	1725	OH	TYR	218	4.970	40.698	111.038	1.00	24.13	AAGL
ATOM	1726	C	TYR	218	7.493	45.201	117.089	1.00	26.28	AAGL
ATOM	1727	O	TYR	218	6.956	44.707	118.087	1.00	28.68	AAGL
ATOM	1728	N	SER	219	8.407	46.163	117.165	1.00	27.77	AAGL
ATOM	1729	CA	SER	219	8.854	46.712	118.447	1.00	28.32	AAGL
ATOM	1730	CB	SER	219	9.124	45.592	119.457	1.00	29.25	AAGL

Fig. 3 cont.

113/174

ATOM	1731	OG	SER	219	9.908	46.078	120.538	1.00	31.84	AAGL
ATOM	1732	C	SER	219	10.119	47.549	118.303	1.00	28.53	AAGL
ATOM	1733	O	SER	219	11.107	47.110	117.716	1.00	26.20	AAGL
ATOM	1734	N	ALA	220	10.090	48.750	118.870	1.00	29.00	AAGL
ATOM	1735	CA	ALA	220	11.235	49.647	118.816	1.00	28.92	AAGL
ATOM	1736	CB	ALA	220	10.851	51.003	119.371	1.00	28.98	AAGL
ATOM	1737	C	ALA	220	12.440	49.104	119.572	1.00	29.06	AAGL
ATOM	1738	O	ALA	220	13.520	49.683	119.507	1.00	30.49	AAGL
ATOM	1739	N	SER	221	12.260	48.003	120.293	1.00	29.58	AAGL
ATOM	1740	CA	SER	221	13.358	47.404	121.046	1.00	29.31	AAGL
ATOM	1741	CB	SER	221	12.815	46.522	122.169	1.00	29.65	AAGL
ATOM	1742	OG	SER	221	12.148	47.295	123.152	1.00	33.54	AAGL
ATOM	1743	C	SER	221	14.278	46.565	120.160	1.00	27.63	AAGL
ATOM	1744	O	SER	221	15.375	46.201	120.570	1.00	27.79	AAGL
ATOM	1745	N	ALA	222	13.828	46.264	118.948	1.00	26.73	AAGL
ATOM	1746	CA	ALA	222	14.598	45.445	118.017	1.00	25.72	AAGL
ATOM	1747	CB	ALA	222	13.662	44.864	116.953	1.00	24.78	AAGL
ATOM	1748	C	ALA	222	15.764	46.187	117.347	1.00	26.39	AAGL
ATOM	1749	O	ALA	222	15.889	46.189	116.117	1.00	24.72	AAGL
ATOM	1750	N	THR	223	16.619	46.809	118.157	1.00	25.12	AAGL
ATOM	1751	CA	THR	223	17.771	47.536	117.632	1.00	26.47	AAGL
ATOM	1752	CB	THR	223	18.360	48.498	118.678	1.00	26.69	AAGL
ATOM	1753	OG1	THR	223	18.793	47.749	119.822	1.00	28.21	AAGL
ATOM	1754	CG2	THR	223	17.321	49.520	119.104	1.00	25.83	AAGL
ATOM	1755	C	THR	223	18.877	46.573	117.223	1.00	25.83	AAGL
ATOM	1756	O	THR	223	18.982	45.465	117.751	1.00	28.38	AAGL
ATOM	1757	N	LEU	224	19.703	47.000	116.278	1.00	26.34	AAGL
ATOM	1758	CA	LEU	224	20.807	46.177	115.817	1.00	27.64	AAGL
ATOM	1759	CB	LEU	224	21.516	46.857	114.647	1.00	30.65	AAGL
ATOM	1760	CG	LEU	224	20.769	46.842	113.311	1.00	31.90	AAGL
ATOM	1761	CD1	LEU	224	21.565	47.603	112.257	1.00	32.52	AAGL
ATOM	1762	CD2	LEU	224	20.558	45.406	112.873	1.00	32.19	AAGL
ATOM	1763	C	LEU	224	21.781	45.958	116.967	1.00	28.76	AAGL
ATOM	1764	O	LEU	224	22.495	44.956	117.011	1.00	30.90	AAGL
ATOM	1765	N	ALA	225	21.796	46.902	117.903	1.00	29.40	AAGL
ATOM	1766	CA	ALA	225	22.663	46.833	119.070	1.00	29.81	AAGL
ATOM	1767	CB	ALA	225	22.632	48.163	119.812	1.00	31.20	AAGL
ATOM	1768	C	ALA	225	22.252	45.701	120.013	1.00	30.35	AAGL
ATOM	1769	O	ALA	225	23.105	45.003	120.560	1.00	29.58	AAGL
ATOM	1770	N	SER	226	20.948	45.526	120.215	1.00	30.66	AAGL
ATOM	1771	CA	SER	226	20.472	44.454	121.090	1.00	30.00	AAGL
ATOM	1772	CB	SER	226	18.995	44.642	121.423	1.00	30.27	AAGL
ATOM	1773	OG	SER	226	18.851	45.426	122.592	1.00	34.03	AAGL
ATOM	1774	C	SER	226	20.685	43.096	120.437	1.00	27.61	AAGL
ATOM	1775	O	SER	226	21.003	42.114	121.113	1.00	27.38	AAGL
ATOM	1776	N	LEU	227	20.510	43.053	119.119	1.00	26.75	AAGL
ATOM	1777	CA	LEU	227	20.691	41.828	118.359	1.00	27.51	AAGL
ATOM	1778	CB	LEU	227	20.337	42.060	116.884	1.00	25.07	AAGL
ATOM	1779	CG	LEU	227	20.555	40.857	115.967	1.00	24.78	AAGL
ATOM	1780	CD1	LEU	227	19.578	39.755	116.340	1.00	24.45	AAGL
ATOM	1781	CD2	LEU	227	20.374	41.268	114.514	1.00	23.51	AAGL
ATOM	1782	C	LEU	227	22.148	41.407	118.465	1.00	28.41	AAGL
ATOM	1783	O	LEU	227	22.456	40.253	118.726	1.00	28.87	AAGL
ATOM	1784	N	LYS	228	23.037	42.372	118.256	1.00	30.45	AAGL
ATOM	1785	CA	LYS	228	24.474	42.132	118.316	1.00	31.96	AAGL
ATOM	1786	CB	LYS	228	25.201	43.469	118.150	1.00	36.24	AAGL
ATOM	1787	CG	LYS	228	26.700	43.390	117.906	1.00	41.65	AAGL
ATOM	1788	CD	LYS	228	27.242	44.757	117.477	1.00	43.74	AAGL
ATOM	1789	CE	LYS	228	26.876	45.827	118.489	1.00	46.64	AAGL
ATOM	1790	NZ	LYS	228	27.322	47.191	118.075	1.00	47.80	AAGL
ATOM	1791	C	LYS	228	24.820	41.485	119.653	1.00	30.16	AAGL
ATOM	1792	O	LYS	228	25.538	40.484	119.710	1.00	31.36	AAGL
ATOM	1793	N	THR	229	24.299	42.056	120.732	1.00	29.71	AAGL
ATOM	1794	CA	THR	229	24.553	41.532	122.063	1.00	30.66	AAGL
ATOM	1795	CB	THR	229	23.981	42.452	123.142	1.00	31.91	AAGL
ATOM	1796	OG1	THR	229	24.783	43.637	123.232	1.00	35.38	AAGL
ATOM	1797	CG2	THR	229	23.978	41.748	124.483	1.00	34.76	AAGL

Fig. 3 cont.

114/174

ATOM	1798	C	THR	229	23.973	40.145	122.282	1.00	30.52	AAGL
ATOM	1799	O	THR	229	24.615	39.290	122.883	1.00	30.20	AAGL
ATOM	1800	N	SER	230	22.753	39.932	121.795	1.00	29.88	AAGL
ATOM	1801	CA	SER	230	22.077	38.646	121.948	1.00	27.75	AAGL
ATOM	1802	CB	SER	230	20.626	38.766	121.470	1.00	27.43	AAGL
ATOM	1803	OG	SER	230	19.947	37.532	121.612	1.00	28.20	AAGL
ATOM	1804	C	SER	230	22.790	37.534	121.178	1.00	27.11	AAGL
ATOM	1805	O	SER	230	22.994	36.436	121.698	1.00	27.65	AAGL
ATOM	1806	N	LEU	231	23.157	37.814	119.935	1.00	27.30	AAGL
ATOM	1807	CA	LEU	231	23.859	36.829	119.122	1.00	28.25	AAGL
ATOM	1808	CB	LEU	231	24.037	37.341	117.687	1.00	28.04	AAGL
ATOM	1809	CG	LEU	231	22.767	37.430	116.832	1.00	28.82	AAGL
ATOM	1810	CD1	LEU	231	23.091	38.027	115.466	1.00	29.62	AAGL
ATOM	1811	CD2	LEU	231	22.171	36.034	116.670	1.00	25.68	AAGL
ATOM	1812	C	LEU	231	25.228	36.541	119.733	1.00	29.07	AAGL
ATOM	1813	O	LEU	231	25.685	35.399	119.743	1.00	27.21	AAGL
ATOM	1814	N	ALA	232	25.874	37.585	120.244	1.00	30.00	AAGL
ATOM	1815	CA	ALA	232	27.198	37.449	120.849	1.00	31.64	AAGL
ATOM	1816	CB	ALA	232	27.733	38.828	121.257	1.00	30.69	AAGL
ATOM	1817	C	ALA	232	27.142	36.535	122.063	1.00	31.96	AAGL
ATOM	1818	O	ALA	232	27.980	35.645	122.229	1.00	32.99	AAGL
ATOM	1819	N	ASN	233	26.146	36.757	122.913	1.00	31.75	AAGL
ATOM	1820	CA	ASN	233	25.989	35.960	124.118	1.00	33.65	AAGL
ATOM	1821	CB	ASN	233	25.010	36.646	125.071	1.00	33.95	AAGL
ATOM	1822	CG	ASN	233	25.507	38.010	125.528	1.00	37.26	AAGL
ATOM	1823	OD1	ASN	233	26.712	38.267	125.547	1.00	37.11	AAGL
ATOM	1824	ND2	ASN	233	24.582	38.884	125.912	1.00	37.35	AAGL
ATOM	1825	C	ASN	233	25.558	34.513	123.866	1.00	33.38	AAGL
ATOM	1826	O	ASN	233	25.932	33.616	124.621	1.00	34.08	AAGL
ATOM	1827	N	LEU	234	24.780	34.280	122.812	1.00	32.11	AAGL
ATOM	1828	CA	LEU	234	24.331	32.927	122.498	1.00	31.75	AAGL
ATOM	1829	CB	LEU	234	23.387	32.935	121.286	1.00	29.34	AAGL
ATOM	1830	CG	LEU	234	21.875	33.038	121.527	1.00	28.94	AAGL
ATOM	1831	CD1	LEU	234	21.151	33.301	120.209	1.00	28.45	AAGL
ATOM	1832	CD2	LEU	234	21.373	31.739	122.157	1.00	29.20	AAGL
ATOM	1833	C	LEU	234	25.529	32.036	122.200	1.00	31.64	AAGL
ATOM	1834	O	LEU	234	25.651	30.937	122.737	1.00	31.64	AAGL
ATOM	1835	N	GLN	235	26.413	32.530	121.340	1.00	31.31	AAGL
ATOM	1836	CA	GLN	235	27.601	31.797	120.944	1.00	34.83	AAGL
ATOM	1837	CB	GLN	235	28.302	32.560	119.810	1.00	34.48	AAGL
ATOM	1838	CG	GLN	235	29.283	31.756	118.991	1.00	36.34	AAGL
ATOM	1839	CD	GLN	235	30.545	31.410	119.747	1.00	38.22	AAGL
ATOM	1840	OE1	GLN	235	31.065	32.224	120.511	1.00	38.29	AAGL
ATOM	1841	NE2	GLN	235	31.059	30.204	119.521	1.00	38.94	AAGL
ATOM	1842	C	GLN	235	28.557	31.597	122.122	1.00	35.64	AAGL
ATOM	1843	O	GLN	235	29.063	30.500	122.335	1.00	34.97	AAGL
ATOM	1844	N	SER	236	28.776	32.659	122.894	1.00	36.91	AAGL
ATOM	1845	CA	SER	236	29.694	32.626	124.034	1.00	39.04	AAGL
ATOM	1846	CB	SER	236	29.942	34.056	124.552	1.00	39.04	AAGL
ATOM	1847	OG	SER	236	28.764	34.620	125.122	1.00	40.94	AAGL
ATOM	1848	C	SER	236	29.221	31.750	125.191	1.00	39.31	AAGL
ATOM	1849	O	SER	236	30.027	31.118	125.885	1.00	40.12	AAGL
ATOM	1850	N	THR	237	27.913	31.703	125.394	1.00	38.31	AAGL
ATOM	1851	CA	THR	237	27.353	30.930	126.489	1.00	37.56	AAGL
ATOM	1852	CB	THR	237	26.002	31.514	126.918	1.00	36.05	AAGL
ATOM	1853	OG1	THR	237	26.183	32.883	127.291	1.00	35.25	AAGL
ATOM	1854	CG2	THR	237	25.432	30.738	128.101	1.00	36.50	AAGL
ATOM	1855	C	THR	237	27.169	29.459	126.181	1.00	36.88	AAGL
ATOM	1856	O	THR	237	27.503	28.606	127.003	1.00	37.95	AAGL
ATOM	1857	N	TYR	238	26.653	29.158	124.992	1.00	35.86	AAGL
ATOM	1858	CA	TYR	238	26.391	27.777	124.594	1.00	34.18	AAGL
ATOM	1859	CB	TYR	238	24.955	27.684	124.059	1.00	33.21	AAGL
ATOM	1860	CG	TYR	238	23.924	28.178	125.056	1.00	32.37	AAGL
ATOM	1861	CD1	TYR	238	23.513	27.376	126.125	1.00	31.26	AAGL
ATOM	1862	CE1	TYR	238	22.630	27.860	127.093	1.00	32.64	AAGL
ATOM	1863	CD2	TYR	238	23.416	29.473	124.976	1.00	31.04	AAGL
ATOM	1864	CE2	TYR	238	22.531	29.961	125.935	1.00	32.31	AAGL

Fig. 3 cont.

115/174

ATOM	1865	CZ	TYR	238	22.146	29.150	126.992	1.00	32.31	AAGL
ATOM	1866	OH	TYR	238	21.291	29.646	127.951	1.00	34.51	AAGL
ATOM	1867	C	TYR	238	27.377	27.210	123.570	1.00	34.17	AAGL
ATOM	1868	O	TYR	238	27.327	26.023	123.245	1.00	32.44	AAGL
ATOM	1869	N	ASP	239	28.263	28.060	123.060	1.00	34.59	AAGL
ATOM	1870	CA	ASP	239	29.267	27.645	122.080	1.00	35.46	AAGL
ATOM	1871	CB	ASP	239	30.292	26.716	122.754	1.00	38.30	AAGL
ATOM	1872	CG	ASP	239	31.412	26.290	121.819	1.00	39.89	AAGL
ATOM	1873	OD1	ASP	239	31.811	27.088	120.939	1.00	40.54	AAGL
ATOM	1874	OD2	ASP	239	31.911	25.155	121.975	1.00	41.25	AAGL
ATOM	1875	C	ASP	239	28.688	26.982	120.829	1.00	34.34	AAGL
ATOM	1876	O	ASP	239	29.098	25.885	120.451	1.00	34.85	AAGL
ATOM	1877	N	LYS	240	27.735	27.656	120.190	1.00	32.57	AAGL
ATOM	1878	CA	LYS	240	27.121	27.155	118.963	1.00	31.63	AAGL
ATOM	1879	CB	LYS	240	25.746	26.525	119.234	1.00	30.18	AAGL
ATOM	1880	CG	LYS	240	25.764	25.264	120.104	1.00	33.39	AAGL
ATOM	1881	CD	LYS	240	24.367	24.648	120.218	1.00	31.95	AAGL
ATOM	1882	CE	LYS	240	24.318	23.502	121.247	1.00	32.26	AAGL
ATOM	1883	NZ	LYS	240	25.241	22.379	120.930	1.00	29.98	AAGL
ATOM	1884	C	LYS	240	26.953	28.315	117.990	1.00	29.66	AAGL
ATOM	1885	O	LYS	240	26.779	29.460	118.400	1.00	30.38	AAGL
ATOM	1886	N	PRO	241	27.010	28.036	116.679	1.00	29.06	AAGL
ATOM	1887	CD	PRO	241	27.422	26.781	116.028	1.00	29.36	AAGL
ATOM	1888	CA	PRO	241	26.850	29.106	115.691	1.00	27.35	AAGL
ATOM	1889	CB	PRO	241	27.136	28.403	114.371	1.00	27.28	AAGL
ATOM	1890	CG	PRO	241	28.058	27.285	114.768	1.00	29.28	AAGL
ATOM	1891	C	PRO	241	25.434	29.693	115.732	1.00	28.09	AAGL
ATOM	1892	O	PRO	241	24.491	29.048	116.201	1.00	27.43	AAGL
ATOM	1893	N	VAL	242	25.294	30.911	115.225	1.00	27.44	AAGL
ATOM	1894	CA	VAL	242	24.005	31.588	115.192	1.00	27.37	AAGL
ATOM	1895	CB	VAL	242	24.047	32.871	116.015	1.00	24.62	AAGL
ATOM	1896	CG1	VAL	242	24.156	32.531	117.479	1.00	27.77	AAGL
ATOM	1897	CG2	VAL	242	25.242	33.719	115.588	1.00	27.66	AAGL
ATOM	1898	C	VAL	242	23.614	31.929	113.763	1.00	26.08	AAGL
ATOM	1899	O	VAL	242	24.468	32.140	112.903	1.00	27.26	AAGL
ATOM	1900	N	VAL	243	22.313	31.990	113.512	1.00	25.38	AAGL
ATOM	1901	CA	VAL	243	21.806	32.287	112.179	1.00	22.94	AAGL
ATOM	1902	CB	VAL	243	21.431	30.973	111.419	1.00	24.38	AAGL
ATOM	1903	CG1	VAL	243	20.994	31.285	109.996	1.00	23.02	AAGL
ATOM	1904	CG2	VAL	243	22.612	30.009	111.409	1.00	25.53	AAGL
ATOM	1905	C	VAL	243	20.541	33.129	112.289	1.00	22.55	AAGL
ATOM	1906	O	VAL	243	19.691	32.836	113.115	1.00	21.01	AAGL
ATOM	1907	N	VAL	244	20.432	34.188	111.487	1.00	21.40	AAGL
ATOM	1908	CA	VAL	244	19.213	34.995	111.483	1.00	21.25	AAGL
ATOM	1909	CB	VAL	244	19.469	36.463	111.094	1.00	21.49	AAGL
ATOM	1910	CG1	VAL	244	18.139	37.170	110.884	1.00	22.74	AAGL
ATOM	1911	CG2	VAL	244	20.263	37.163	112.188	1.00	20.20	AAGL
ATOM	1912	C	VAL	244	18.414	34.309	110.387	1.00	19.60	AAGL
ATOM	1913	O	VAL	244	18.720	34.446	109.205	1.00	20.42	AAGL
ATOM	1914	N	VAL	245	17.395	33.557	110.780	1.00	17.97	AAGL
ATOM	1915	CA	VAL	245	16.635	32.788	109.807	1.00	17.90	AAGL
ATOM	1916	CB	VAL	245	16.234	31.431	110.413	1.00	18.93	AAGL
ATOM	1917	CG1	VAL	245	17.485	30.699	110.871	1.00	18.12	AAGL
ATOM	1918	CG2	VAL	245	15.274	31.637	111.578	1.00	17.48	AAGL
ATOM	1919	C	VAL	245	15.415	33.450	109.192	1.00	17.32	AAGL
ATOM	1920	O	VAL	245	14.783	32.882	108.308	1.00	17.57	AAGL
ATOM	1921	N	GLU	246	15.085	34.644	109.666	1.00	17.88	AAGL
ATOM	1922	CA	GLU	246	13.949	35.392	109.143	1.00	18.02	AAGL
ATOM	1923	CB	GLU	246	12.657	35.023	109.875	1.00	22.04	AAGL
ATOM	1924	CG	GLU	246	11.917	33.816	109.352	1.00	22.72	AAGL
ATOM	1925	CD	GLU	246	10.611	33.589	110.102	1.00	24.03	AAGL
ATOM	1926	OE1	GLU	246	9.882	34.579	110.340	1.00	20.71	AAGL
ATOM	1927	OE2	GLU	246	10.311	32.422	110.438	1.00	22.70	AAGL
ATOM	1928	C	GLU	246	14.163	36.882	109.327	1.00	18.20	AAGL
ATOM	1929	O	GLU	246	14.547	37.316	110.404	1.00	19.12	AAGL
ATOM	1930	N	THR	247	13.912	37.658	108.281	1.00	17.83	AAGL
ATOM	1931	CA	THR	247	14.024	39.114	108.372	1.00	19.34	AAGL

Fig. 3 cont.

116/174

ATOM	1932	CB	THR	247	15.505	39.584	108.487	1.00	21.29	AAGL
ATOM	1933	OG1	THR	247	15.532	40.968	108.857	1.00	22.65	AAGL
ATOM	1934	CG2	THR	247	16.238	39.409	107.172	1.00	20.07	AAGL
ATOM	1935	C	THR	247	13.356	39.774	107.167	1.00	18.87	AAGL
ATOM	1936	O	THR	247	13.167	39.141	106.134	1.00	19.64	AAGL
ATOM	1937	N	ASN	248	12.980	41.039	107.326	1.00	17.13	AAGL
ATOM	1938	CA	ASN	248	12.312	41.816	106.281	1.00	18.39	AAGL
ATOM	1939	CB	ASN	248	10.793	41.800	106.466	1.00	19.04	AAGL
ATOM	1940	CG	ASN	248	10.095	40.616	105.836	1.00	20.07	AAGL
ATOM	1941	OD1	ASN	248	8.889	40.475	106.007	1.00	23.76	AAGL
ATOM	1942	ND2	ASN	248	10.820	39.775	105.113	1.00	20.10	AAGL
ATOM	1943	C	ASN	248	12.685	43.291	106.427	1.00	18.69	AAGL
ATOM	1944	O	ASN	248	13.135	43.725	107.483	1.00	17.33	AAGL
ATOM	1945	N	TRP	249	12.466	44.046	105.355	1.00	19.91	AAGL
ATOM	1946	CA	TRP	249	12.630	45.503	105.355	1.00	21.18	AAGL
ATOM	1947	CB	TRP	249	14.065	45.981	105.129	1.00	21.42	AAGL
ATOM	1948	CG	TRP	249	14.117	47.491	105.288	1.00	19.99	AAGL
ATOM	1949	CD2	TRP	249	14.261	48.225	106.517	1.00	19.73	AAGL
ATOM	1950	CE2	TRP	249	14.108	49.599	106.208	1.00	19.65	AAGL
ATOM	1951	CE3	TRP	249	14.499	47.853	107.847	1.00	19.37	AAGL
ATOM	1952	CD1	TRP	249	13.895	48.431	104.313	1.00	20.84	AAGL
ATOM	1953	NE1	TRP	249	13.887	49.693	104.861	1.00	19.99	AAGL
ATOM	1954	CZ2	TRP	249	14.185	50.604	107.187	1.00	20.08	AAGL
ATOM	1955	CZ3	TRP	249	14.575	48.853	108.820	1.00	21.35	AAGL
ATOM	1956	CH2	TRP	249	14.418	50.214	108.481	1.00	21.66	AAGL
ATOM	1957	C	TRP	249	11.722	46.003	104.241	1.00	20.70	AAGL
ATOM	1958	O	TRP	249	11.800	45.539	103.102	1.00	22.36	AAGL
ATOM	1959	N	PRO	250	10.838	46.957	104.559	1.00	22.00	AAGL
ATOM	1960	CD	PRO	250	10.686	47.625	105.865	1.00	21.04	AAGL
ATOM	1961	CA	PRO	250	9.894	47.508	103.587	1.00	21.27	AAGL
ATOM	1962	CB	PRO	250	8.876	48.210	104.477	1.00	22.31	AAGL
ATOM	1963	CG	PRO	250	9.744	48.783	105.538	1.00	22.64	AAGL
ATOM	1964	C	PRO	250	10.402	48.435	102.507	1.00	23.33	AAGL
ATOM	1965	O	PRO	250	11.270	49.268	102.743	1.00	21.79	AAGL
ATOM	1966	N	VAL	251	9.844	48.282	101.311	1.00	23.27	AAGL
ATOM	1967	CA	VAL	251	10.185	49.165	100.212	1.00	24.85	AAGL
ATOM	1968	CB	VAL	251	10.171	48.437	98.854	1.00	24.44	AAGL
ATOM	1969	CG1	VAL	251	11.335	47.476	98.787	1.00	24.31	AAGL
ATOM	1970	CG2	VAL	251	8.865	47.699	98.657	1.00	28.76	AAGL
ATOM	1971	C	VAL	251	9.095	50.227	100.278	1.00	26.42	AAGL
ATOM	1972	O	VAL	251	9.177	51.281	99.646	1.00	24.68	AAGL
ATOM	1973	N	SER	252	8.075	49.934	101.083	1.00	27.57	AAGL
ATOM	1974	CA	SER	252	6.962	50.851	101.298	1.00	27.22	AAGL
ATOM	1975	CB	SER	252	5.942	50.722	100.164	1.00	28.72	AAGL
ATOM	1976	OG	SER	252	4.895	51.662	100.327	1.00	28.82	AAGL
ATOM	1977	C	SER	252	6.289	50.558	102.642	1.00	28.31	AAGL
ATOM	1978	O	SER	252	5.858	49.434	102.886	1.00	26.39	AAGL
ATOM	1979	N	CYS	253	6.232	51.559	103.518	1.00	27.82	AAGL
ATOM	1980	CA	CYS	253	5.594	51.413	104.824	1.00	27.19	AAGL
ATOM	1981	C	CYS	253	4.932	52.738	105.201	1.00	28.86	AAGL
ATOM	1982	O	CYS	253	5.411	53.436	106.091	1.00	27.40	AAGL
ATOM	1983	CB	CYS	253	6.611	51.031	105.913	1.00	27.78	AAGL
ATOM	1984	SG	CYS	253	5.803	50.369	107.406	1.00	28.15	AAGL
ATOM	1985	N	PRO	254	3.812	53.089	104.528	1.00	30.47	AAGL
ATOM	1986	CD	PRO	254	3.166	52.222	103.525	1.00	30.66	AAGL
ATOM	1987	CA	PRO	254	3.022	54.314	104.725	1.00	32.44	AAGL
ATOM	1988	CB	PRO	254	1.739	54.023	103.951	1.00	32.43	AAGL
ATOM	1989	CG	PRO	254	2.206	53.171	102.837	1.00	33.11	AAGL
ATOM	1990	C	PRO	254	2.739	54.660	106.181	1.00	34.76	AAGL
ATOM	1991	O	PRO	254	2.780	55.828	106.570	1.00	35.87	AAGL
ATOM	1992	N	ASN	255	2.429	53.653	106.987	1.00	35.37	AAGL
ATOM	1993	CA	ASN	255	2.161	53.912	108.392	1.00	36.89	AAGL
ATOM	1994	CB	ASN	255	0.755	54.457	108.575	1.00	37.41	AAGL
ATOM	1995	CG	ASN	255	0.410	54.682	110.030	1.00	38.46	AAGL
ATOM	1996	OD1	ASN	255	1.254	55.124	110.832	1.00	35.39	AAGL
ATOM	1997	ND2	ASN	255	-0.833	54.389	110.387	1.00	34.81	AAGL
ATOM	1998	C	ASN	255	2.354	52.691	109.263	1.00	35.87	AAGL

Fig. 3 cont.

117/174

ATOM	1999	O	ASN	255	1.471	51.841	109.375	1.00	36.70	AAGL
ATOM	2000	N	PRO	256	3.520	52.601	109.910	1.00	35.76	AAGL
ATOM	2001	CD	PRO	256	4.640	53.550	109.780	1.00	35.85	AAGL
ATOM	2002	CA	PRO	256	3.878	51.493	110.791	1.00	34.93	AAGL
ATOM	2003	CB	PRO	256	5.387	51.654	110.927	1.00	35.60	AAGL
ATOM	2004	CG	PRO	256	5.558	53.122	110.901	1.00	36.37	AAGL
ATOM	2005	C	PRO	256	3.158	51.543	112.140	1.00	34.50	AAGL
ATOM	2006	O	PRO	256	3.041	52.604	112.752	1.00	33.71	AAGL
ATOM	2007	N	ALA	257	2.683	50.393	112.603	1.00	32.93	AAGL
ATOM	2008	CA	ALA	257	1.988	50.327	113.880	1.00	31.85	AAGL
ATOM	2009	CB	ALA	257	1.371	48.946	114.079	1.00	31.01	AAGL
ATOM	2010	C	ALA	257	2.970	50.621	115.000	1.00	32.12	AAGL
ATOM	2011	O	ALA	257	2.591	51.139	116.046	1.00	31.82	AAGL
ATOM	2012	N	TYR	258	4.237	50.291	114.771	1.00	31.15	AAGL
ATOM	2013	CA	TYR	258	5.279	50.504	115.761	1.00	32.72	AAGL
ATOM	2014	CB	TYR	258	5.892	49.168	116.169	1.00	35.88	AAGL
ATOM	2015	CG	TYR	258	4.954	48.226	116.880	1.00	38.05	AAGL
ATOM	2016	CD1	TYR	258	4.136	47.341	116.170	1.00	37.62	AAGL
ATOM	2017	CE1	TYR	258	3.276	46.468	116.840	1.00	40.53	AAGL
ATOM	2018	CD2	TYR	258	4.889	48.216	118.267	1.00	39.82	AAGL
ATOM	2019	CE2	TYR	258	4.039	47.357	118.943	1.00	41.64	AAGL
ATOM	2020	CZ	TYR	258	3.236	46.489	118.232	1.00	42.48	AAGL
ATOM	2021	OH	TYR	258	2.386	45.659	118.934	1.00	45.83	AAGL
ATOM	2022	C	TYR	258	6.414	51.411	115.293	1.00	32.44	AAGL
ATOM	2023	O	TYR	258	6.736	51.468	114.108	1.00	31.27	AAGL
ATOM	2024	N	ALA	259	7.021	52.121	116.237	1.00	30.79	AAGL
ATOM	2025	CA	ALA	259	8.147	52.983	115.919	1.00	31.35	AAGL
ATOM	2026	CB	ALA	259	8.479	53.864	117.118	1.00	33.39	AAGL
ATOM	2027	C	ALA	259	9.315	52.046	115.607	1.00	29.93	AAGL
ATOM	2028	O	ALA	259	9.458	51.004	116.242	1.00	29.16	AAGL
ATOM	2029	N	PHE	260	10.137	52.392	114.623	1.00	29.81	AAGL
ATOM	2030	CA	PHE	260	11.281	51.548	114.285	1.00	29.03	AAGL
ATOM	2031	CB	PHE	260	11.772	51.871	112.867	1.00	28.71	AAGL
ATOM	2032	CG	PHE	260	11.007	51.157	111.776	1.00	29.00	AAGL
ATOM	2033	CD1	PHE	260	9.622	51.242	111.704	1.00	29.61	AAGL
ATOM	2034	CD2	PHE	260	11.676	50.379	110.840	1.00	28.02	AAGL
ATOM	2035	CE1	PHE	260	8.915	50.558	110.720	1.00	30.59	AAGL
ATOM	2036	CE2	PHE	260	10.979	49.694	109.854	1.00	29.46	AAGL
ATOM	2037	CZ	PHE	260	9.594	49.783	109.796	1.00	29.30	AAGL
ATOM	2038	C	PHE	260	12.409	51.765	115.300	1.00	29.23	AAGL
ATOM	2039	O	PHE	260	12.464	52.806	115.957	1.00	29.38	AAGL
ATOM	2040	N	PRO	261	13.302	50.771	115.466	1.00	29.34	AAGL
ATOM	2041	CD	PRO	261	13.247	49.414	114.891	1.00	29.47	AAGL
ATOM	2042	CA	PRO	261	14.418	50.891	116.409	1.00	29.63	AAGL
ATOM	2043	CB	PRO	261	15.194	49.599	116.186	1.00	28.18	AAGL
ATOM	2044	CG	PRO	261	14.096	48.617	115.852	1.00	28.51	AAGL
ATOM	2045	C	PRO	261	15.240	52.137	116.063	1.00	29.95	AAGL
ATOM	2046	O	PRO	261	15.312	52.539	114.897	1.00	30.37	AAGL
ATOM	2047	N	SER	262	15.846	52.736	117.082	1.00	32.41	AAGL
ATOM	2048	CA	SER	262	16.637	53.951	116.922	1.00	31.88	AAGL
ATOM	2049	CB	SER	262	17.167	54.396	118.291	1.00	33.67	AAGL
ATOM	2050	OG	SER	262	17.708	53.295	119.003	1.00	37.49	AAGL
ATOM	2051	C	SER	262	17.785	53.858	115.918	1.00	32.30	AAGL
ATOM	2052	O	SER	262	17.967	54.773	115.107	1.00	32.95	AAGL
ATOM	2053	N	ASP	263	18.565	52.778	115.955	1.00	31.17	AAGL
ATOM	2054	CA	ASP	263	19.660	52.663	115.000	1.00	31.60	AAGL
ATOM	2055	CB	ASP	263	20.768	51.724	115.512	1.00	31.48	AAGL
ATOM	2056	CG	ASP	263	20.241	50.418	116.090	1.00	31.74	AAGL
ATOM	2057	OD1	ASP	263	19.111	49.994	115.748	1.00	30.33	AAGL
ATOM	2058	OD2	ASP	263	20.987	49.796	116.887	1.00	30.41	AAGL
ATOM	2059	C	ASP	263	19.210	52.227	113.604	1.00	31.45	AAGL
ATOM	2060	O	ASP	263	20.036	51.858	112.768	1.00	32.04	AAGL
ATOM	2061	N	LEU	264	17.905	52.296	113.344	1.00	30.59	AAGL
ATOM	2062	CA	LEU	264	17.363	51.920	112.038	1.00	28.75	AAGL
ATOM	2063	CB	LEU	264	16.621	50.575	112.123	1.00	27.83	AAGL
ATOM	2064	CG	LEU	264	17.375	49.323	112.570	1.00	24.26	AAGL
ATOM	2065	CD1	LEU	264	16.389	48.179	112.752	1.00	25.96	AAGL

Fig. 3 cont.

118/174

ATOM	2066	CD2	LEU	264	18.429	48.955	111.552	1.00	27.53	AAGL
ATOM	2067	C	LEU	264	16.391	52.971	111.512	1.00	28.95	AAGL
ATOM	2068	O	LEU	264	15.941	52.893	110.374	1.00	27.43	AAGL
ATOM	2069	N	SER	265	16.074	53.965	112.331	1.00	30.75	AAGL
ATOM	2070	CA	SER	265	15.120	54.986	111.925	1.00	32.24	AAGL
ATOM	2071	CB	SER	265	14.662	55.779	113.154	1.00	33.67	AAGL
ATOM	2072	OG	SER	265	15.763	56.287	113.892	1.00	34.70	AAGL
ATOM	2073	C	SER	265	15.572	55.941	110.815	1.00	33.25	AAGL
ATOM	2074	O	SER	265	14.776	56.742	110.328	1.00	34.94	AAGL
ATOM	2075	N	SER	266	16.832	55.859	110.399	1.00	33.96	AAGL
ATOM	2076	CA	SER	266	17.305	56.745	109.339	1.00	33.28	AAGL
ATOM	2077	CB	SER	266	18.765	57.133	109.576	1.00	34.74	AAGL
ATOM	2078	OG	SER	266	19.652	56.107	109.142	1.00	40.32	AAGL
ATOM	2079	C	SER	266	17.176	56.085	107.964	1.00	31.87	AAGL
ATOM	2080	O	SER	266	17.236	56.754	106.931	1.00	30.82	AAGL
ATOM	2081	N	ILE	267	16.982	54.773	107.956	1.00	28.10	AAGL
ATOM	2082	CA	ILE	267	16.874	54.025	106.713	1.00	26.55	AAGL
ATOM	2083	CB	ILE	267	17.067	52.523	106.983	1.00	25.69	AAGL
ATOM	2084	CG2	ILE	267	17.120	51.757	105.666	1.00	26.74	AAGL
ATOM	2085	CG1	ILE	267	18.349	52.323	107.801	1.00	28.70	AAGL
ATOM	2086	CD1	ILE	267	18.606	50.889	108.250	1.00	27.91	AAGL
ATOM	2087	C	ILE	267	15.537	54.267	106.024	1.00	25.54	AAGL
ATOM	2088	O	ILE	267	14.482	54.060	106.604	1.00	24.26	AAGL
ATOM	2089	N	PRO	268	15.567	54.734	104.767	1.00	25.09	AAGL
ATOM	2090	CD	PRO	268	16.725	55.097	103.932	1.00	26.35	AAGL
ATOM	2091	CA	PRO	268	14.312	54.986	104.058	1.00	25.07	AAGL
ATOM	2092	CB	PRO	268	14.767	55.792	102.844	1.00	26.89	AAGL
ATOM	2093	CG	PRO	268	16.108	55.205	102.560	1.00	26.87	AAGL
ATOM	2094	C	PRO	268	13.602	53.694	103.662	1.00	24.21	AAGL
ATOM	2095	O	PRO	268	14.208	52.622	103.644	1.00	23.10	AAGL
ATOM	2096	N	PHE	269	12.313	53.806	103.362	1.00	23.20	AAGL
ATOM	2097	CA	PHE	269	11.525	52.664	102.931	1.00	23.46	AAGL
ATOM	2098	CB	PHE	269	10.091	52.765	103.446	1.00	24.32	AAGL
ATOM	2099	CG	PHE	269	9.994	52.861	104.942	1.00	24.64	AAGL
ATOM	2100	CD1	PHE	269	10.819	52.093	105.758	1.00	25.88	AAGL
ATOM	2101	CD2	PHE	269	9.070	53.706	105.535	1.00	25.95	AAGL
ATOM	2102	CE1	PHE	269	10.722	52.168	107.151	1.00	26.08	AAGL
ATOM	2103	CE2	PHE	269	8.965	53.788	106.925	1.00	23.79	AAGL
ATOM	2104	CZ	PHE	269	9.793	53.016	107.732	1.00	23.02	AAGL
ATOM	2105	C	PHE	269	11.548	52.698	101.413	1.00	23.22	AAGL
ATOM	2106	O	PHE	269	10.778	53.420	100.774	1.00	23.95	AAGL
ATOM	2107	N	SER	270	12.462	51.916	100.848	1.00	23.29	AAGL
ATOM	2108	CA	SER	270	12.649	51.848	99.410	1.00	24.41	AAGL
ATOM	2109	CB	SER	270	13.282	53.140	98.924	1.00	24.90	AAGL
ATOM	2110	OG	SER	270	14.547	53.300	99.540	1.00	25.23	AAGL
ATOM	2111	C	SER	270	13.596	50.702	99.125	1.00	22.81	AAGL
ATOM	2112	O	SER	270	14.147	50.105	100.055	1.00	25.01	AAGL
ATOM	2113	N	VAL	271	13.791	50.392	97.845	1.00	23.71	AAGL
ATOM	2114	CA	VAL	271	14.702	49.316	97.477	1.00	22.85	AAGL
ATOM	2115	CB	VAL	271	14.846	49.170	95.948	1.00	24.85	AAGL
ATOM	2116	CG1	VAL	271	15.953	48.172	95.630	1.00	23.46	AAGL
ATOM	2117	CG2	VAL	271	13.534	48.698	95.338	1.00	22.67	AAGL
ATOM	2118	C	VAL	271	16.065	49.649	98.056	1.00	24.60	AAGL
ATOM	2119	O	VAL	271	16.744	48.787	98.613	1.00	24.45	AAGL
ATOM	2120	N	ALA	272	16.453	50.914	97.932	1.00	25.33	AAGL
ATOM	2121	CA	ALA	272	17.740	51.373	98.442	1.00	24.59	AAGL
ATOM	2122	CB	ALA	272	17.946	52.858	98.104	1.00	26.33	AAGL
ATOM	2123	C	ALA	272	17.814	51.162	99.951	1.00	21.83	AAGL
ATOM	2124	O	ALA	272	18.839	50.732	100.479	1.00	21.37	AAGL
ATOM	2125	N	GLY	273	16.722	51.463	100.646	1.00	22.29	AAGL
ATOM	2126	CA	GLY	273	16.710	51.284	102.086	1.00	22.02	AAGL
ATOM	2127	C	GLY	273	16.808	49.814	102.448	1.00	21.98	AAGL
ATOM	2128	O	GLY	273	17.427	49.442	103.443	1.00	22.94	AAGL
ATOM	2129	N	GLN	274	16.192	48.973	101.623	1.00	23.13	AAGL
ATOM	2130	CA	GLN	274	16.210	47.534	101.837	1.00	23.82	AAGL
ATOM	2131	CB	GLN	274	15.354	46.862	100.770	1.00	26.47	AAGL
ATOM	2132	CG	GLN	274	14.976	45.429	101.049	1.00	28.49	AAGL

Fig. 3 cont.

119/174

ATOM	2133	CD	GLN	274	13.969	44.926	100.034	1.00	29.11	AAGL
ATOM	2134	OE1	GLN	274	14.273	44.819	98.846	1.00	26.58	AAGL
ATOM	2135	NE2	GLN	274	12.760	44.630	100.491	1.00	22.87	AAGL
ATOM	2136	C	GLN	274	17.655	47.047	101.741	1.00	24.42	AAGL
ATOM	2137	O	GLN	274	18.090	46.184	102.500	1.00	23.54	AAGL
ATOM	2138	N	GLN	275	18.405	47.621	100.807	1.00	22.92	AAGL
ATOM	2139	CA	GLN	275	19.802	47.240	100.627	1.00	22.23	AAGL
ATOM	2140	CB	GLN	275	20.347	47.863	99.349	1.00	25.17	AAGL
ATOM	2141	CG	GLN	275	19.668	47.370	98.089	1.00	25.16	AAGL
ATOM	2142	CD	GLN	275	20.162	48.099	96.862	1.00	29.65	AAGL
ATOM	2143	OE1	GLN	275	19.879	49.283	96.677	1.00	33.06	AAGL
ATOM	2144	NE2	GLN	275	20.915	47.403	96.021	1.00	30.34	AAGL
ATOM	2145	C	GLN	275	20.658	47.679	101.807	1.00	22.46	AAGL
ATOM	2146	O	GLN	275	21.492	46.924	102.289	1.00	23.14	AAGL
ATOM	2147	N	GLU	276	20.444	48.906	102.268	1.00	23.39	AAGL
ATOM	2148	CA	GLU	276	21.203	49.448	103.386	1.00	22.93	AAGL
ATOM	2149	CB	GLU	276	20.821	50.917	103.615	1.00	26.77	AAGL
ATOM	2150	CG	GLU	276	21.393	51.518	104.891	1.00	31.09	AAGL
ATOM	2151	CD	GLU	276	21.007	52.982	105.081	1.00	33.52	AAGL
ATOM	2152	OE1	GLU	276	19.968	53.402	104.533	1.00	35.95	AAGL
ATOM	2153	OE2	GLU	276	21.734	53.704	105.791	1.00	34.45	AAGL
ATOM	2154	C	GLU	276	20.948	48.620	104.643	1.00	23.86	AAGL
ATOM	2155	O	GLU	276	21.870	48.302	105.385	1.00	22.86	AAGL
ATOM	2156	N	PHE	277	19.692	48.261	104.876	1.00	22.41	AAGL
ATOM	2157	CA	PHE	277	19.355	47.458	106.042	1.00	21.05	AAGL
ATOM	2158	CB	PHE	277	17.844	47.222	106.120	1.00	20.89	AAGL
ATOM	2159	CG	PHE	277	17.447	46.219	107.171	1.00	19.02	AAGL
ATOM	2160	CD1	PHE	277	17.541	46.533	108.518	1.00	21.55	AAGL
ATOM	2161	CD2	PHE	277	17.003	44.946	106.805	1.00	22.72	AAGL
ATOM	2162	CE1	PHE	277	17.200	45.594	109.498	1.00	23.87	AAGL
ATOM	2163	CE2	PHE	277	16.660	43.998	107.781	1.00	21.01	AAGL
ATOM	2164	CZ	PHE	277	16.759	44.323	109.122	1.00	22.10	AAGL
ATOM	2165	C	PHE	277	20.051	46.102	105.989	1.00	20.46	AAGL
ATOM	2166	O	PHE	277	20.676	45.674	106.952	1.00	20.12	AAGL
ATOM	2167	N	LEU	278	19.928	45.421	104.856	1.00	20.92	AAGL
ATOM	2168	CA	LEU	278	20.541	44.107	104.716	1.00	23.04	AAGL
ATOM	2169	CB	LEU	278	20.225	43.512	103.340	1.00	24.67	AAGL
ATOM	2170	CG	LEU	278	18.764	43.076	103.160	1.00	24.46	AAGL
ATOM	2171	CD1	LEU	278	18.548	42.589	101.741	1.00	26.14	AAGL
ATOM	2172	CD2	LEU	278	18.427	41.964	104.161	1.00	26.55	AAGL
ATOM	2173	C	LEU	278	22.040	44.144	104.947	1.00	23.23	AAGL
ATOM	2174	O	LEU	278	22.593	43.273	105.615	1.00	20.93	AAGL
ATOM	2175	N	GLU	279	22.707	45.155	104.404	1.00	24.22	AAGL
ATOM	2176	CA	GLU	279	24.141	45.244	104.601	1.00	25.09	AAGL
ATOM	2177	CB	GLU	279	24.735	46.309	103.682	1.00	26.59	AAGL
ATOM	2178	CG	GLU	279	24.418	46.045	102.213	1.00	32.07	AAGL
ATOM	2179	CD	GLU	279	25.419	46.691	101.274	1.00	37.00	AAGL
ATOM	2180	OE1	GLU	279	25.859	47.815	101.576	1.00	39.68	AAGL
ATOM	2181	OE2	GLU	279	25.756	46.078	100.235	1.00	40.09	AAGL
ATOM	2182	C	GLU	279	24.460	45.537	106.062	1.00	23.19	AAGL
ATOM	2183	O	GLU	279	25.409	44.984	106.614	1.00	23.97	AAGL
ATOM	2184	N	LYS	280	23.669	46.391	106.701	1.00	24.51	AAGL
ATOM	2185	CA	LYS	280	23.922	46.688	108.105	1.00	24.24	AAGL
ATOM	2186	CB	LYS	280	23.076	47.879	108.566	1.00	25.42	AAGL
ATOM	2187	CG	LYS	280	23.535	49.186	107.912	1.00	30.50	AAGL
ATOM	2188	CD	LYS	280	22.847	50.429	108.463	1.00	35.06	AAGL
ATOM	2189	CE	LYS	280	23.561	51.683	107.932	1.00	38.33	AAGL
ATOM	2190	NZ	LYS	280	23.003	52.962	108.460	1.00	39.58	AAGL
ATOM	2191	C	LYS	280	23.665	45.458	108.975	1.00	24.77	AAGL
ATOM	2192	O	LYS	280	24.382	45.219	109.949	1.00	21.68	AAGL
ATOM	2193	N	LEU	281	22.655	44.669	108.614	1.00	23.74	AAGL
ATOM	2194	CA	LEU	281	22.351	43.449	109.365	1.00	23.71	AAGL
ATOM	2195	CB	LEU	281	21.023	42.844	108.891	1.00	21.53	AAGL
ATOM	2196	CG	LEU	281	20.603	41.484	109.478	1.00	21.28	AAGL
ATOM	2197	CD1	LEU	281	20.583	41.533	110.996	1.00	19.24	AAGL
ATOM	2198	CD2	LEU	281	19.226	41.109	108.937	1.00	19.79	AAGL
ATOM	2199	C	LEU	281	23.482	42.429	109.172	1.00	22.36	AAGL

Fig. 3 cont.

120/174

ATOM	2200	O	LEU	281	23.940	41.803	110.125	1.00	24.16	AAGL
ATOM	2201	N	ALA	282	23.921	42.267	107.928	1.00	23.73	AAGL
ATOM	2202	CA	ALA	282	24.998	41.339	107.611	1.00	23.94	AAGL
ATOM	2203	CB	ALA	282	25.272	41.356	106.120	1.00	23.77	AAGL
ATOM	2204	C	ALA	282	26.264	41.713	108.382	1.00	24.05	AAGL
ATOM	2205	O	ALA	282	27.060	40.848	108.741	1.00	25.21	AAGL
ATOM	2206	N	ALA	283	26.441	43.005	108.643	1.00	25.21	AAGL
ATOM	2207	CA	ALA	283	27.614	43.477	109.372	1.00	25.75	AAGL
ATOM	2208	CB	ALA	283	27.616	45.005	109.424	1.00	26.48	AAGL
ATOM	2209	C	ALA	283	27.635	42.898	110.786	1.00	26.18	AAGL
ATOM	2210	O	ALA	283	28.658	42.387	111.248	1.00	25.57	AAGL
ATOM	2211	N	VAL	284	26.493	42.963	111.466	1.00	25.74	AAGL
ATOM	2212	CA	VAL	284	26.383	42.438	112.824	1.00	25.11	AAGL
ATOM	2213	CB	VAL	284	24.972	42.711	113.414	1.00	24.63	AAGL
ATOM	2214	CG1	VAL	284	24.806	41.992	114.744	1.00	24.88	AAGL
ATOM	2215	CG2	VAL	284	24.779	44.220	113.606	1.00	27.53	AAGL
ATOM	2216	C	VAL	284	26.658	40.941	112.857	1.00	23.65	AAGL
ATOM	2217	O	VAL	284	27.416	40.456	113.694	1.00	23.12	AAGL
ATOM	2218	N	VAL	285	26.052	40.209	111.930	1.00	25.11	AAGL
ATOM	2219	CA	VAL	285	26.236	38.769	111.881	1.00	23.69	AAGL
ATOM	2220	CB	VAL	285	25.302	38.135	110.839	1.00	24.54	AAGL
ATOM	2221	CG1	VAL	285	25.490	36.626	110.822	1.00	25.86	AAGL
ATOM	2222	CG2	VAL	285	23.855	38.490	111.171	1.00	26.53	AAGL
ATOM	2223	C	VAL	285	27.679	38.406	111.559	1.00	26.05	AAGL
ATOM	2224	O	VAL	285	28.256	37.514	112.179	1.00	25.09	AAGL
ATOM	2225	N	GLU	286	28.259	39.101	110.587	1.00	24.87	AAGL
ATOM	2226	CA	GLU	286	29.639	38.847	110.201	1.00	26.91	AAGL
ATOM	2227	CB	GLU	286	30.041	39.737	109.025	1.00	29.06	AAGL
ATOM	2228	CG	GLU	286	31.518	39.586	108.629	1.00	32.60	AAGL
ATOM	2229	CD	GLU	286	31.812	38.250	107.971	1.00	35.44	AAGL
ATOM	2230	OE1	GLU	286	31.578	38.120	106.751	1.00	36.64	AAGL
ATOM	2231	OE2	GLU	286	32.264	37.322	108.672	1.00	35.13	AAGL
ATOM	2232	C	GLU	286	30.587	39.110	111.367	1.00	26.68	AAGL
ATOM	2233	O	GLU	286	31.528	38.354	111.590	1.00	27.24	AAGL
ATOM	2234	N	ALA	287	30.343	40.181	112.111	1.00	25.24	AAGL
ATOM	2235	CA	ALA	287	31.211	40.522	113.230	1.00	27.43	AAGL
ATOM	2236	CB	ALA	287	31.032	41.990	113.600	1.00	27.81	AAGL
ATOM	2237	C	ALA	287	31.003	39.650	114.465	1.00	29.71	AAGL
ATOM	2238	O	ALA	287	31.726	39.795	115.451	1.00	31.32	AAGL
ATOM	2239	N	THR	288	30.024	38.749	114.415	1.00	28.83	AAGL
ATOM	2240	CA	THR	288	29.744	37.871	115.549	1.00	29.55	AAGL
ATOM	2241	CB	THR	288	28.242	37.499	115.618	1.00	28.36	AAGL
ATOM	2242	OG1	THR	288	27.444	38.680	115.459	1.00	29.45	AAGL
ATOM	2243	CG2	THR	288	27.921	36.854	116.962	1.00	31.36	AAGL
ATOM	2244	C	THR	288	30.533	36.577	115.393	1.00	27.55	AAGL
ATOM	2245	O	THR	288	30.708	36.094	114.280	1.00	27.21	AAGL
ATOM	2246	N	THR	289	31.006	36.015	116.504	1.00	30.08	AAGL
ATOM	2247	CA	THR	289	31.757	34.770	116.437	1.00	31.68	AAGL
ATOM	2248	CB	THR	289	32.352	34.384	117.806	1.00	34.06	AAGL
ATOM	2249	OG1	THR	289	33.186	35.449	118.291	1.00	35.86	AAGL
ATOM	2250	CG2	THR	289	33.186	33.128	117.673	1.00	34.89	AAGL
ATOM	2251	C	THR	289	30.817	33.659	115.964	1.00	33.04	AAGL
ATOM	2252	O	THR	289	29.842	33.332	116.632	1.00	34.14	AAGL
ATOM	2253	N	ASP	290	31.120	33.085	114.807	1.00	33.28	AAGL
ATOM	2254	CA	ASP	290	30.298	32.030	114.211	1.00	32.82	AAGL
ATOM	2255	CB	ASP	290	30.183	30.812	115.137	1.00	33.97	AAGL
ATOM	2256	CG	ASP	290	31.397	29.900	115.054	1.00	38.26	AAGL
ATOM	2257	OB1	ASP	290	32.093	29.921	114.006	1.00	38.79	AAGL
ATOM	2258	OD2	ASP	290	31.651	29.152	116.024	1.00	38.34	AAGL
ATOM	2259	C	ASP	290	28.903	32.495	113.793	1.00	30.86	AAGL
ATOM	2260	O	ASP	290	27.909	31.781	113.979	1.00	31.04	AAGL
ATOM	2261	N	GLY	291	28.841	33.705	113.246	1.00	30.92	AAGL
ATOM	2262	CA	GLY	291	27.590	34.240	112.740	1.00	28.36	AAGL
ATOM	2263	C	GLY	291	27.579	33.689	111.331	1.00	28.69	AAGL
ATOM	2264	O	GLY	291	28.358	34.133	110.487	1.00	29.95	AAGL
ATOM	2265	N	LEU	292	26.702	32.726	111.065	1.00	25.52	AAGL
ATOM	2266	CA	LEU	292	26.662	32.072	109.767	1.00	25.89	AAGL

Fig. 3 cont.

121/174

ATOM	2267	CB	LEU	292	26.184	30.632	109.940	1.00	25.46	AAGL
ATOM	2268	CG	LEU	292	27.072	29.798	110.858	1.00	26.52	AAGL
ATOM	2269	CD1	LEU	292	26.632	28.354	110.807	1.00	26.92	AAGL
ATOM	2270	CD2	LEU	292	28.526	29.929	110.418	1.00	27.08	AAGL
ATOM	2271	C	LEU	292	25.908	32.700	108.613	1.00	25.35	AAGL
ATOM	2272	O	LEU	292	26.298	32.528	107.459	1.00	25.52	AAGL
ATOM	2273	N	GLY	293	24.824	33.413	108.887	1.00	25.75	AAGL
ATOM	2274	CA	GLY	293	24.118	33.990	107.769	1.00	22.89	AAGL
ATOM	2275	C	GLY	293	22.785	34.642	108.043	1.00	23.42	AAGL
ATOM	2276	O	GLY	293	22.366	34.828	109.187	1.00	21.61	AAGL
ATOM	2277	N	VAL	294	22.123	34.984	106.950	1.00	21.14	AAGL
ATOM	2278	CA	VAL	294	20.841	35.647	107.003	1.00	22.60	AAGL
ATOM	2279	CB	VAL	294	21.013	37.164	106.775	1.00	24.33	AAGL
ATOM	2280	CG1	VAL	294	19.657	37.818	106.538	1.00	25.68	AAGL
ATOM	2281	CG2	VAL	294	21.719	37.789	107.969	1.00	23.35	AAGL
ATOM	2282	C	VAL	294	19.926	35.094	105.932	1.00	23.50	AAGL
ATOM	2283	O	VAL	294	20.351	34.867	104.799	1.00	22.80	AAGL
ATOM	2284	N	TYR	295	18.668	34.871	106.293	1.00	21.62	AAGL
ATOM	2285	CA	TYR	295	17.684	34.387	105.338	1.00	20.32	AAGL
ATOM	2286	CB	TYR	295	17.105	33.035	105.761	1.00	20.96	AAGL
ATOM	2287	CG	TYR	295	18.040	31.862	105.606	1.00	21.66	AAGL
ATOM	2288	CD1	TYR	295	19.124	31.692	106.461	1.00	20.77	AAGL
ATOM	2289	CE1	TYR	295	19.974	30.584	106.337	1.00	22.52	AAGL
ATOM	2290	CD2	TYR	295	17.820	30.904	104.617	1.00	21.20	AAGL
ATOM	2291	CE2	TYR	295	18.658	29.798	104.481	1.00	22.01	AAGL
ATOM	2292	CZ	TYR	295	19.732	29.640	105.341	1.00	22.76	AAGL
ATOM	2293	OH	TYR	295	20.564	28.543	105.211	1.00	23.00	AAGL
ATOM	2294	C	TYR	295	16.554	35.399	105.295	1.00	21.79	AAGL
ATOM	2295	O	TYR	295	15.933	35.672	106.325	1.00	20.79	AAGL
ATOM	2296	N	TYR	296	16.296	35.966	104.118	1.00	20.08	AAGL
ATOM	2297	CA	TYR	296	15.212	36.927	103.975	1.00	19.64	AAGL
ATOM	2298	CB	TYR	296	15.328	37.704	102.666	1.00	20.69	AAGL
ATOM	2299	CG	TYR	296	14.503	38.972	102.656	1.00	19.70	AAGL
ATOM	2300	CD1	TYR	296	15.005	40.152	103.194	1.00	21.48	AAGL
ATOM	2301	CE1	TYR	296	14.236	41.310	103.232	1.00	21.48	AAGL
ATOM	2302	CD2	TYR	296	13.203	38.980	102.147	1.00	19.37	AAGL
ATOM	2303	CE2	TYR	296	12.423	40.138	102.182	1.00	21.23	AAGL
ATOM	2304	CZ	TYR	296	12.948	41.295	102.729	1.00	20.28	AAGL
ATOM	2305	OH	TYR	296	12.177	42.427	102.797	1.00	19.16	AAGL
ATOM	2306	C	TYR	296	13.947	36.090	103.939	1.00	20.23	AAGL
ATOM	2307	O	TYR	296	13.945	35.010	103.359	1.00	22.11	AAGL
ATOM	2308	N	TRP	297	12.868	36.578	104.538	1.00	17.43	AAGL
ATOM	2309	CA	TRP	297	11.641	35.795	104.553	1.00	17.69	AAGL
ATOM	2310	CB	TRP	297	10.942	35.894	105.920	1.00	19.08	AAGL
ATOM	2311	CG	TRP	297	9.854	34.864	106.075	1.00	19.30	AAGL
ATOM	2312	CD2	TRP	297	8.440	35.098	106.104	1.00	19.62	AAGL
ATOM	2313	CE2	TRP	297	7.808	33.837	106.201	1.00	20.98	AAGL
ATOM	2314	CE3	TRP	297	7.644	36.250	106.057	1.00	21.65	AAGL
ATOM	2315	CD1	TRP	297	10.018	33.511	106.155	1.00	21.34	AAGL
ATOM	2316	NE1	TRP	297	8.793	32.885	106.231	1.00	21.42	AAGL
ATOM	2317	CZ2	TRP	297	6.418	33.696	106.251	1.00	19.44	AAGL
ATOM	2318	CZ3	TRP	297	6.257	36.109	106.106	1.00	24.11	AAGL
ATOM	2319	CH2	TRP	297	5.661	34.836	106.201	1.00	22.67	AAGL
ATOM	2320	C	TRP	297	10.647	36.175	103.464	1.00	18.74	AAGL
ATOM	2321	O	TRP	297	10.158	37.305	103.428	1.00	17.76	AAGL
ATOM	2322	N	GLU	298	10.357	35.214	102.584	1.00	18.51	AAGL
ATOM	2323	CA	GLU	298	9.391	35.390	101.505	1.00	18.03	AAGL
ATOM	2324	CB	GLU	298	7.976	35.340	102.084	1.00	19.76	AAGL
ATOM	2325	CG	GLU	298	7.562	33.964	102.582	1.00	19.56	AAGL
ATOM	2326	CD	GLU	298	7.283	32.996	101.447	1.00	20.53	AAGL
ATOM	2327	OE1	GLU	298	7.320	33.422	100.274	1.00	21.41	AAGL
ATOM	2328	OE2	GLU	298	7.016	31.811	101.733	1.00	22.59	AAGL
ATOM	2329	C	GLU	298	9.553	36.664	100.668	1.00	20.54	AAGL
ATOM	2330	O	GLU	298	8.636	37.482	100.569	1.00	21.31	AAGL
ATOM	2331	N	PRO	299	10.715	36.832	100.025	1.00	21.16	AAGL
ATOM	2332	CD	PRO	299	11.893	35.949	100.046	1.00	20.70	AAGL
ATOM	2333	CA	PRO	299	10.964	38.022	99.203	1.00	21.46	AAGL

Fig. 3 cont.

122/174

ATOM	2334	CB	PRO	299	12.455	37.913	98.897	1.00	22.49	AAGL
ATOM	2335	CG	PRO	299	12.658	36.429	98.826	1.00	23.37	AAGL
ATOM	2336	C	PRO	299	10.133	38.131	97.924	1.00	21.34	AAGL
ATOM	2337	O	PRO	299	10.051	39.203	97.329	1.00	25.08	AAGL
ATOM	2338	N	ALA	300	9.515	37.031	97.507	1.00	21.73	AAGL
ATOM	2339	CA	ALA	300	8.751	37.021	96.264	1.00	23.94	AAGL
ATOM	2340	CB	ALA	300	9.418	36.071	95.272	1.00	23.80	AAGL
ATOM	2341	C	ALA	300	7.280	36.663	96.386	1.00	23.97	AAGL
ATOM	2342	O	ALA	300	6.663	36.277	95.394	1.00	24.57	AAGL
ATOM	2343	N	TRP	301	6.707	36.802	97.579	1.00	25.04	AAGL
ATOM	2344	CA	TRP	301	5.301	36.454	97.775	1.00	24.04	AAGL
ATOM	2345	CB	TRP	301	5.007	36.244	99.266	1.00	25.15	AAGL
ATOM	2346	CG	TRP	301	3.744	35.459	99.531	1.00	23.59	AAGL
ATOM	2347	CD2	TRP	301	3.394	34.781	100.744	1.00	23.73	AAGL
ATOM	2348	CE2	TRP	301	2.119	34.200	100.548	1.00	23.63	AAGL
ATOM	2349	CE3	TRP	301	4.033	34.607	101.980	1.00	24.03	AAGL
ATOM	2350	CD1	TRP	301	2.697	35.267	98.673	1.00	23.60	AAGL
ATOM	2351	NE1	TRP	301	1.717	34.513	99.278	1.00	24.88	AAGL
ATOM	2352	CZ2	TRP	301	1.470	33.458	101.544	1.00	22.63	AAGL
ATOM	2353	CZ3	TRP	301	3.387	33.871	102.969	1.00	22.92	AAGL
ATOM	2354	CH2	TRP	301	2.119	33.306	102.741	1.00	21.62	AAGL
ATOM	2355	C	TRP	301	4.322	37.485	97.213	1.00	25.72	AAGL
ATOM	2356	O	TRP	301	3.682	38.220	97.968	1.00	24.12	AAGL
ATOM	2357	N	ILE	302	4.192	37.532	95.889	1.00	26.27	AAGL
ATOM	2358	CA	ILE	302	3.273	38.475	95.256	1.00	26.33	AAGL
ATOM	2359	CB	ILE	302	3.257	38.317	93.722	1.00	28.94	AAGL
ATOM	2360	CG2	ILE	302	2.804	39.615	93.081	1.00	30.12	AAGL
ATOM	2361	CG1	ILE	302	4.653	37.963	93.215	1.00	32.05	AAGL
ATOM	2362	CD1	ILE	302	5.671	39.038	93.462	1.00	33.22	AAGL
ATOM	2363	C	ILE	302	1.872	38.180	95.770	1.00	24.91	AAGL
ATOM	2364	O	ILE	302	1.467	37.017	95.840	1.00	26.39	AAGL
ATOM	2365	N	GLY	303	1.134	39.223	96.133	1.00	25.25	AAGL
ATOM	2366	CA	GLY	303	-0.210	39.018	96.646	1.00	27.25	AAGL
ATOM	2367	C	GLY	303	-0.298	39.086	98.159	1.00	26.83	AAGL
ATOM	2368	O	GLY	303	-1.394	39.110	98.728	1.00	27.53	AAGL
ATOM	2369	N	ASN	304	0.861	39.090	98.812	1.00	25.82	AAGL
ATOM	2370	CA	ASN	304	0.958	39.182	100.267	1.00	23.80	AAGL
ATOM	2371	CB	ASN	304	1.113	37.783	100.887	1.00	22.97	AAGL
ATOM	2372	CG	ASN	304	1.131	37.811	102.413	1.00	23.62	AAGL
ATOM	2373	OD1	ASN	304	0.494	38.663	103.038	1.00	25.26	AAGL
ATOM	2374	ND2	ASN	304	1.841	36.864	103.017	1.00	20.66	AAGL
ATOM	2375	C	ASN	304	2.200	40.031	100.539	1.00	22.75	AAGL
ATOM	2376	O	ASN	304	3.030	39.704	101.382	1.00	21.47	AAGL
ATOM	2377	N	ALA	305	2.306	41.139	99.812	1.00	23.77	AAGL
ATOM	2378	CA	ALA	305	3.454	42.028	99.926	1.00	23.13	AAGL
ATOM	2379	CB	ALA	305	3.281	43.211	98.980	1.00	25.11	AAGL
ATOM	2380	C	ALA	305	3.770	42.520	101.335	1.00	22.70	AAGL
ATOM	2381	O	ALA	305	4.928	42.784	101.650	1.00	23.39	AAGL
ATOM	2382	N	GLY	306	2.753	42.632	102.182	1.00	23.04	AAGL
ATOM	2383	CA	GLY	306	2.970	43.093	103.543	1.00	21.61	AAGL
ATOM	2384	C	GLY	306	3.592	42.023	104.421	1.00	20.83	AAGL
ATOM	2385	O	GLY	306	4.185	42.323	105.461	1.00	20.31	AAGL
ATOM	2386	N	LEU	307	3.445	40.771	103.997	1.00	20.88	AAGL
ATOM	2387	CA	LEU	307	3.980	39.615	104.710	1.00	19.63	AAGL
ATOM	2388	CB	LEU	307	5.511	39.575	104.599	1.00	19.26	AAGL
ATOM	2389	CG	LEU	307	6.089	39.333	103.198	1.00	17.07	AAGL
ATOM	2390	CD1	LEU	307	7.602	39.293	103.292	1.00	21.74	AAGL
ATOM	2391	CD2	LEU	307	5.568	38.012	102.625	1.00	18.50	AAGL
ATOM	2392	C	LEU	307	3.580	39.543	106.178	1.00	20.69	AAGL
ATOM	2393	O	LEU	307	4.377	39.131	107.018	1.00	20.75	AAGL
ATOM	2394	N	GLY	308	2.352	39.955	106.484	1.00	19.76	AAGL
ATOM	2395	CA	GLY	308	1.870	39.898	107.854	1.00	22.38	AAGL
ATOM	2396	C	GLY	308	2.188	41.068	108.769	1.00	23.64	AAGL
ATOM	2397	O	GLY	308	1.785	41.072	109.938	1.00	23.65	AAGL
ATOM	2398	N	SER	309	2.907	42.060	108.252	1.00	23.88	AAGL
ATOM	2399	CA	SER	309	3.275	43.227	109.045	1.00	22.50	AAGL
ATOM	2400	CB	SER	309	4.693	43.684	108.695	1.00	22.00	AAGL

Fig. 3 cont.

123/174

ATOM	2401	OG	SER	309	4.719	44.264	107.407	1.00	20.09	AAGL
ATOM	2402	C	SER	309	2.312	44.385	108.790	1.00	23.02	AAGL
ATOM	2403	O	SER	309	1.388	44.271	107.983	1.00	23.42	AAGL
ATOM	2404	N	SER	310	2.539	45.494	109.486	1.00	20.79	AAGL
ATOM	2405	CA	SER	310	1.707	46.684	109.316	1.00	23.22	AAGL
ATOM	2406	CB	SER	310	1.715	47.535	110.592	1.00	22.59	AAGL
ATOM	2407	OG	SER	310	3.022	48.003	110.903	1.00	24.03	AAGL
ATOM	2408	C	SER	310	2.234	47.512	108.138	1.00	23.44	AAGL
ATOM	2409	O	SER	310	1.658	48.545	107.773	1.00	23.68	AAGL
ATOM	2410	N	CYS	311	3.340	47.069	107.548	1.00	21.68	AAGL
ATOM	2411	CA	CYS	311	3.892	47.788	106.413	1.00	23.63	AAGL
ATOM	2412	C	CYS	311	3.210	47.381	105.123	1.00	24.17	AAGL
ATOM	2413	O	CYS	311	2.591	46.321	105.044	1.00	26.98	AAGL
ATOM	2414	CB	CYS	311	5.387	47.545	106.289	1.00	25.30	AAGL
ATOM	2415	SG	CYS	311	6.407	48.425	107.501	1.00	27.01	AAGL
ATOM	2416	N	ALA	312	3.343	48.219	104.104	1.00	23.57	AAGL
ATOM	2417	CA	ALA	312	2.707	47.954	102.821	1.00	25.20	AAGL
ATOM	2418	CB	ALA	312	2.516	49.266	102.053	1.00	25.76	AAGL
ATOM	2419	C	ALA	312	3.400	46.950	101.919	1.00	25.50	AAGL
ATOM	2420	O	ALA	312	2.741	46.128	101.288	1.00	24.61	AAGL
ATOM	2421	N	ASP	313	4.726	47.003	101.858	1.00	25.50	AAGL
ATOM	2422	CA	ASP	313	5.444	46.122	100.949	1.00	25.55	AAGL
ATOM	2423	CB	ASP	313	5.560	46.827	99.596	1.00	28.83	AAGL
ATOM	2424	CG	ASP	313	5.870	45.886	98.471	1.00	31.63	AAGL
ATOM	2425	OD1	ASP	313	6.652	44.940	98.680	1.00	29.42	AAGL
ATOM	2426	OD2	ASP	313	5.337	46.107	97.358	1.00	37.09	AAGL
ATOM	2427	C	ASP	313	6.836	45.752	101.440	1.00	25.26	AAGL
ATOM	2428	O	ASP	313	7.698	46.620	101.575	1.00	25.34	AAGL
ATOM	2429	N	ASN	314	7.049	44.460	101.685	1.00	22.30	AAGL
ATOM	2430	CA	ASN	314	8.335	43.956	102.157	1.00	21.78	AAGL
ATOM	2431	CB	ASN	314	8.156	43.167	103.458	1.00	23.69	AAGL
ATOM	2432	CG	ASN	314	7.832	44.056	104.640	1.00	25.29	AAGL
ATOM	2433	OD1	ASN	314	8.520	45.039	104.883	1.00	28.43	AAGL
ATOM	2434	ND2	ASN	314	6.787	43.710	105.382	1.00	24.92	AAGL
ATOM	2435	C	ASN	314	8.999	43.053	101.127	1.00	22.83	AAGL
ATOM	2436	O	ASN	314	10.043	42.469	101.393	1.00	21.72	AAGL
ATOM	2437	N	LEU	315	8.388	42.942	99.955	1.00	22.78	AAGL
ATOM	2438	CA	LEU	315	8.919	42.086	98.907	1.00	22.99	AAGL
ATOM	2439	CB	LEU	315	7.879	41.913	97.796	1.00	22.49	AAGL
ATOM	2440	CG	LEU	315	6.491	41.421	98.219	1.00	22.62	AAGL
ATOM	2441	CD1	LEU	315	5.599	41.214	96.991	1.00	25.48	AAGL
ATOM	2442	CD2	LEU	315	6.638	40.117	98.978	1.00	23.90	AAGL
ATOM	2443	C	LEU	315	10.219	42.604	98.310	1.00	24.65	AAGL
ATOM	2444	O	LEU	315	10.608	43.756	98.523	1.00	24.23	AAGL
ATOM	2445	N	MET	316	10.898	41.728	97.576	1.00	25.62	AAGL
ATOM	2446	CA	MET	316	12.135	42.088	96.901	1.00	28.28	AAGL
ATOM	2447	CB	MET	316	13.280	41.159	97.321	1.00	26.81	AAGL
ATOM	2448	CG	MET	316	13.718	41.299	98.777	1.00	27.89	AAGL
ATOM	2449	SD	MET	316	15.182	40.302	99.187	1.00	29.46	AAGL
ATOM	2450	CE	MET	316	16.470	41.485	98.890	1.00	29.41	AAGL
ATOM	2451	C	MET	316	11.889	41.977	95.393	1.00	29.33	AAGL
ATOM	2452	O	MET	316	12.824	41.939	94.599	1.00	29.21	AAGL
ATOM	2453	N	VAL	317	10.616	41.910	95.015	1.00	30.78	AAGL
ATOM	2454	CA	VAL	317	10.217	41.820	93.614	1.00	32.20	AAGL
ATOM	2455	CB	VAL	317	9.681	40.416	93.263	1.00	31.88	AAGL
ATOM	2456	CG1	VAL	317	10.763	39.374	93.477	1.00	33.90	AAGL
ATOM	2457	CG2	VAL	317	8.479	40.100	94.128	1.00	36.43	AAGL
ATOM	2458	C	VAL	317	9.113	42.836	93.346	1.00	33.46	AAGL
ATOM	2459	O	VAL	317	8.342	43.169	94.246	1.00	30.98	AAGL
ATOM	2460	N	ASP	318	9.041	43.333	92.113	1.00	33.99	AAGL
ATOM	2461	CA	ASP	318	8.015	44.309	91.760	1.00	38.16	AAGL
ATOM	2462	CB	ASP	318	8.405	45.073	90.493	1.00	39.54	AAGL
ATOM	2463	CG	ASP	318	7.502	46.252	90.240	1.00	38.96	AAGL
ATOM	2464	OD1	ASP	318	6.267	46.066	90.216	1.00	40.93	AAGL
ATOM	2465	OD2	ASP	318	8.022	47.370	90.058	1.00	42.03	AAGL
ATOM	2466	C	ASP	318	6.671	43.621	91.547	1.00	41.03	AAGL
ATOM	2467	O	ASP	318	6.512	42.800	90.642	1.00	41.02	AAGL

Fig. 3 cont.

124/174

ATOM	2468	N	TYR	319	5.695	43.985	92.373	1.00	43.91	AAGL
ATOM	2469	CA	TYR	319	4.370	43.388	92.312	1.00	46.99	AAGL
ATOM	2470	CB	TYR	319	3.555	43.811	93.548	1.00	48.59	AAGL
ATOM	2471	CG	TYR	319	3.003	45.224	93.516	1.00	48.66	AAGL
ATOM	2472	CD1	TYR	319	1.702	45.475	93.080	1.00	49.01	AAGL
ATOM	2473	CE1	TYR	319	1.180	46.778	93.066	1.00	49.49	AAGL
ATOM	2474	CD2	TYR	319	3.772	46.305	93.937	1.00	49.12	AAGL
ATOM	2475	CE2	TYR	319	3.264	47.610	93.929	1.00	49.13	AAGL
ATOM	2476	CZ	TYR	319	1.967	47.836	93.493	1.00	49.15	AAGL
ATOM	2477	OH	TYR	319	1.457	49.115	93.495	1.00	48.83	AAGL
ATOM	2478	C	TYR	319	3.602	43.705	91.034	1.00	49.01	AAGL
ATOM	2479	O	TYR	319	2.479	43.221	90.840	1.00	51.46	AAGL
ATOM	2480	N	THR	320	4.178	44.522	90.158	1.00	48.98	AAGL
ATOM	2481	CA	THR	320	3.491	44.827	88.909	1.00	48.98	AAGL
ATOM	2482	CB	THR	320	3.383	46.349	88.642	1.00	48.87	AAGL
ATOM	2483	OG1	THR	320	4.681	46.899	88.371	1.00	48.24	AAGL
ATOM	2484	CG2	THR	320	2.770	47.054	89.829	1.00	48.99	AAGL
ATOM	2485	C	THR	320	4.206	44.184	87.730	1.00	49.75	AAGL
ATOM	2486	O	THR	320	3.572	43.536	86.896	1.00	50.61	AAGL
ATOM	2487	N	THR	321	5.524	44.349	87.671	1.00	49.77	AAGL
ATOM	2488	CA	THR	321	6.316	43.798	86.575	1.00	50.22	AAGL
ATOM	2489	CB	THR	321	7.561	44.673	86.297	1.00	50.80	AAGL
ATOM	2490	OG1	THR	321	8.505	44.522	87.368	1.00	51.66	AAGL
ATOM	2491	CG2	THR	321	7.168	46.144	86.193	1.00	51.57	AAGL
ATOM	2492	C	THR	321	6.805	42.371	86.807	1.00	50.00	AAGL
ATOM	2493	O	THR	321	7.360	41.743	85.905	1.00	50.77	AAGL
ATOM	2494	N	ASP	322	6.617	41.859	88.016	1.00	49.25	AAGL
ATOM	2495	CA	ASP	322	7.082	40.515	88.345	1.00	47.20	AAGL
ATOM	2496	CB	ASP	322	6.534	39.471	87.354	1.00	50.64	AAGL
ATOM	2497	CG	ASP	322	5.010	39.462	87.262	1.00	52.01	AAGL
ATOM	2498	OD1	ASP	322	4.313	39.445	88.309	1.00	52.82	AAGL
ATOM	2499	OD2	ASP	322	4.502	39.442	86.113	1.00	55.12	AAGL
ATOM	2500	C	ASP	322	8.616	40.486	88.288	1.00	44.47	AAGL
ATOM	2501	O	ASP	322	9.231	39.416	88.385	1.00	44.83	AAGL
ATOM	2502	N	GLU	323	9.236	41.652	88.124	1.00	41.39	AAGL
ATOM	2503	CA	GLU	323	10.696	41.745	88.049	1.00	39.30	AAGL
ATOM	2504	CB	GLU	323	11.093	42.894	87.127	1.00	41.31	AAGL
ATOM	2505	CG	GLU	323	12.586	43.108	86.977	1.00	44.75	AAGL
ATOM	2506	CD	GLU	323	12.911	44.040	85.812	1.00	47.16	AAGL
ATOM	2507	OE1	GLU	323	14.099	44.371	85.612	1.00	47.71	AAGL
ATOM	2508	OE2	GLU	323	11.971	44.438	85.091	1.00	47.99	AAGL
ATOM	2509	C	GLU	323	11.346	41.939	89.420	1.00	36.82	AAGL
ATOM	2510	O	GLU	323	10.898	42.761	90.220	1.00	35.46	AAGL
ATOM	2511	N	VAL	324	12.410	41.182	89.675	1.00	35.31	AAGL
ATOM	2512	CA	VAL	324	13.120	41.257	90.948	1.00	32.93	AAGL
ATOM	2513	CB	VAL	324	14.154	40.103	91.099	1.00	33.31	AAGL
ATOM	2514	CG1	VAL	324	13.487	38.770	90.827	1.00	32.75	AAGL
ATOM	2515	CG2	VAL	324	15.341	40.316	90.153	1.00	32.38	AAGL
ATOM	2516	C	VAL	324	13.864	42.573	91.090	1.00	33.56	AAGL
ATOM	2517	O	VAL	324	14.329	43.153	90.093	1.00	33.29	AAGL
ATOM	2518	N	TYR	325	13.974	43.045	92.328	1.00	30.85	AAGL
ATOM	2519	CA	TYR	325	14.683	44.282	92.608	1.00	31.59	AAGL
ATOM	2520	CB	TYR	325	14.228	44.910	93.929	1.00	30.31	AAGL
ATOM	2521	CG	TYR	325	12.794	45.387	93.972	1.00	31.58	AAGL
ATOM	2522	CD1	TYR	325	12.225	46.079	92.901	1.00	31.55	AAGL
ATOM	2523	CE1	TYR	325	10.908	46.548	92.970	1.00	33.68	AAGL
ATOM	2524	CD2	TYR	325	12.015	45.177	95.112	1.00	30.63	AAGL
ATOM	2525	CE2	TYR	325	10.714	45.639	95.192	1.00	30.81	AAGL
ATOM	2526	CZ	TYR	325	10.164	46.323	94.127	1.00	33.10	AAGL
ATOM	2527	OH	TYR	325	8.878	46.780	94.231	1.00	32.89	AAGL
ATOM	2528	C	TYR	325	16.169	44.003	92.714	1.00	31.02	AAGL
ATOM	2529	O	TYR	325	16.602	42.859	92.908	1.00	28.70	AAGL
ATOM	2530	N	GLU	326	16.946	45.070	92.599	1.00	31.64	AAGL
ATOM	2531	CA	GLU	326	18.398	45.010	92.684	1.00	31.11	AAGL
ATOM	2532	CB	GLU	326	18.949	46.406	92.388	1.00	34.73	AAGL
ATOM	2533	CG	GLU	326	20.432	46.588	92.571	1.00	39.05	AAGL
ATOM	2534	CD	GLU	326	20.851	47.994	92.209	1.00	41.46	AAGL

Fig. 3 cont.

125/174

ATOM	2535	OE1	GLU	326	20.682	48.359	91.021	1.00	42.66	AAGL
ATOM	2536	OE2	GLU	326	21.334	48.731	93.106	1.00	40.82	AAGL
ATOM	2537	C	GLU	326	18.848	44.538	94.065	1.00	29.10	AAGL
ATOM	2538	O	GLU	326	19.996	44.136	94.253	1.00	27.19	AAGL
ATOM	2539	N	SER	327	17.939	44.581	95.035	1.00	27.41	AAGL
ATOM	2540	CA	SER	327	18.265	44.147	96.387	1.00	25.31	AAGL
ATOM	2541	CB	SER	327	17.127	44.519	97.347	1.00	23.59	AAGL
ATOM	2542	OG	SER	327	15.870	44.218	96.776	1.00	25.25	AAGL
ATOM	2543	C	SER	327	18.574	42.650	96.458	1.00	24.17	AAGL
ATOM	2544	O	SER	327	19.243	42.195	97.383	1.00	25.88	AAGL
ATOM	2545	N	ILE	328	18.107	41.880	95.479	1.00	27.45	AAGL
ATOM	2546	CA	ILE	328	18.395	40.446	95.466	1.00	28.86	AAGL
ATOM	2547	CB	ILE	328	17.692	39.728	94.295	1.00	31.12	AAGL
ATOM	2548	CG2	ILE	328	18.120	38.277	94.250	1.00	35.58	AAGL
ATOM	2549	CG1	ILE	328	16.175	39.823	94.448	1.00	33.48	AAGL
ATOM	2550	CD1	ILE	328	15.647	39.194	95.727	1.00	36.80	AAGL
ATOM	2551	C	ILE	328	19.904	40.248	95.317	1.00	29.16	AAGL
ATOM	2552	O	ILE	328	20.486	39.324	95.897	1.00	27.50	AAGL
ATOM	2553	N	GLU	329	20.536	41.124	94.538	1.00	30.01	AAGL
ATOM	2554	CA	GLU	329	21.978	41.045	94.328	1.00	30.96	AAGL
ATOM	2555	CB	GLU	329	22.435	42.017	93.229	1.00	33.99	AAGL
ATOM	2556	CG	GLU	329	21.773	41.813	91.866	1.00	37.96	AAGL
ATOM	2557	CD	GLU	329	22.520	42.542	90.746	1.00	42.17	AAGL
ATOM	2558	OE1	GLU	329	22.731	43.773	90.863	1.00	42.73	AAGL
ATOM	2559	OE2	GLU	329	22.898	41.883	89.746	1.00	42.99	AAGL
ATOM	2560	C	GLU	329	22.682	41.386	95.627	1.00	29.64	AAGL
ATOM	2561	O	GLU	329	23.693	40.771	95.988	1.00	29.09	AAGL
ATOM	2562	N	THR	330	22.142	42.368	96.340	1.00	28.03	AAGL
ATOM	2563	CA	THR	330	22.720	42.776	97.611	1.00	26.58	AAGL
ATOM	2564	CB	THR	330	21.958	43.986	98.200	1.00	27.90	AAGL
ATOM	2565	OG1	THR	330	22.099	45.110	97.323	1.00	26.78	AAGL
ATOM	2566	CG2	THR	330	22.495	44.345	99.574	1.00	27.91	AAGL
ATOM	2567	C	THR	330	22.671	41.608	98.606	1.00	26.92	AAGL
ATOM	2568	O	THR	330	23.654	41.325	99.301	1.00	25.31	AAGL
ATOM	2569	N	LEU	331	21.529	40.930	98.667	1.00	25.72	AAGL
ATOM	2570	CA	LEU	331	21.368	39.791	99.571	1.00	24.97	AAGL
ATOM	2571	CB	LEU	331	19.923	39.282	99.532	1.00	24.19	AAGL
ATOM	2572	CG	LEU	331	19.567	37.968	100.247	1.00	23.31	AAGL
ATOM	2573	CD1	LEU	331	19.873	38.051	101.736	1.00	25.91	AAGL
ATOM	2574	CD2	LEU	331	18.082	37.674	100.034	1.00	23.20	AAGL
ATOM	2575	C	LEU	331	22.319	38.674	99.158	1.00	25.90	AAGL
ATOM	2576	O	LEU	331	22.971	38.054	100.001	1.00	25.54	AAGL
ATOM	2577	N	GLY	332	22.390	38.427	97.853	1.00	26.10	AAGL
ATOM	2578	CA	GLY	332	23.262	37.386	97.337	1.00	28.89	AAGL
ATOM	2579	C	GLY	332	24.738	37.631	97.594	1.00	31.12	AAGL
ATOM	2580	O	GLY	332	25.526	36.682	97.614	1.00	30.65	AAGL
ATOM	2581	N	GLU	333	25.120	38.890	97.805	1.00	31.60	AAGL
ATOM	2582	CA	GLU	333	26.524	39.229	98.044	1.00	33.74	AAGL
ATOM	2583	CB	GLU	333	26.949	40.400	97.148	1.00	34.97	AAGL
ATOM	2584	CG	GLU	333	26.639	40.205	95.673	1.00	37.79	AAGL
ATOM	2585	CD	GLU	333	26.846	41.471	94.846	1.00	41.19	AAGL
ATOM	2586	OE1	GLU	333	26.164	41.621	93.807	1.00	40.67	AAGL
ATOM	2587	OE2	GLU	333	27.694	42.309	95.225	1.00	44.05	AAGL
ATOM	2588	C	GLU	333	26.844	39.586	99.490	1.00	35.01	AAGL
ATOM	2589	O	GLU	333	27.924	40.109	99.776	1.00	33.69	AAGL
ATOM	2590	N	LEU	334	25.925	39.319	100.410	1.00	34.35	AAGL
ATOM	2591	CA	LEU	334	26.193	39.655	101.805	1.00	33.87	AAGL
ATOM	2592	CB	LEU	334	24.963	39.371	102.672	1.00	33.01	AAGL
ATOM	2593	CG	LEU	334	23.721	40.228	102.407	1.00	32.82	AAGL
ATOM	2594	CD1	LEU	334	22.611	39.797	103.347	1.00	28.38	AAGL
ATOM	2595	CD2	LEU	334	24.044	41.711	102.607	1.00	30.26	AAGL
ATOM	2596	C	LEU	334	27.396	38.881	102.344	1.00	35.69	AAGL
ATOM	2597	O	LEU	334	27.475	37.650	102.129	1.00	36.26	AAGL
ATOM	2598	OXT	LEU	334	28.249	39.520	102.989	1.00	35.77	AAGL
END										

Fig. 3 cont.

08 APR. 2003

126/174

PVS

HEADER									BLGL	
ATOM	1	C	GLY	11	35.975	14.251	23.684	1.00	48.49	BLGL
ATOM	2	O	GLY	11	36.590	13.193	23.517	1.00	48.50	BLGL
ATOM	3	N	GLY	11	36.372	16.222	25.216	1.00	48.08	BLGL
ATOM	4	CA	GLY	11	36.733	15.548	23.933	1.00	47.57	BLGL
ATOM	5	N	LEU	12	34.642	14.326	23.653	1.00	48.44	BLGL
ATOM	6	CA	LEU	12	33.796	13.147	23.416	1.00	45.49	BLGL
ATOM	7	CB	LEU	12	32.592	13.139	24.371	1.00	43.64	BLGL
ATOM	8	CG	LEU	12	31.626	11.961	24.199	1.00	41.45	BLGL
ATOM	9	CD1	LEU	12	32.074	10.803	25.085	1.00	36.51	BLGL
ATOM	10	CD2	LEU	12	30.203	12.400	24.550	1.00	41.11	BLGL
ATOM	11	C	LEU	12	33.272	13.109	21.979	1.00	44.11	BLGL
ATOM	12	O	LEU	12	32.688	14.086	21.502	1.00	45.18	BLGL
ATOM	13	N	TYR	13	33.487	11.986	21.295	1.00	42.63	BLGL
ATOM	14	CA	TYR	13	33.004	11.817	19.928	1.00	41.19	BLGL
ATOM	15	CB	TYR	13	34.083	11.206	19.042	1.00	45.36	BLGL
ATOM	16	CG	TYR	13	33.594	10.996	17.624	1.00	52.03	BLGL
ATOM	17	CD1	TYR	13	33.232	9.727	17.167	1.00	53.91	BLGL
ATOM	18	CE1	TYR	13	32.703	9.545	15.872	1.00	55.69	BLGL
ATOM	19	CD2	TYR	13	33.420	12.083	16.756	1.00	53.77	BLGL
ATOM	20	CE2	TYR	13	32.890	11.914	15.466	1.00	54.66	BLGL
ATOM	21	CZ	TYR	13	32.534	10.644	15.031	1.00	56.09	BLGL
ATOM	22	OH	TYR	13	32.009	10.473	13.764	1.00	56.62	BLGL
ATOM	23	C	TYR	13	31.755	10.932	19.837	1.00	38.22	BLGL
ATOM	24	O	TYR	13	31.686	9.887	20.471	1.00	38.74	BLGL
ATOM	25	N	VAL	14	30.776	11.355	19.039	1.00	34.88	BLGL
ATOM	26	CA	VAL	14	29.537	10.604	18.845	1.00	31.50	BLGL
ATOM	27	CB	VAL	14	28.418	11.094	19.777	1.00	30.78	BLGL
ATOM	28	CG1	VAL	14	27.102	10.405	19.427	1.00	30.71	BLGL
ATOM	29	CG2	VAL	14	28.790	10.812	21.203	1.00	30.70	BLGL
ATOM	30	C	VAL	14	29.069	10.798	17.420	1.00	30.74	BLGL
ATOM	31	O	VAL	14	28.776	11.917	17.007	1.00	31.52	BLGL
ATOM	32	N	GLU	15	28.994	9.710	16.669	1.00	30.21	BLGL
ATOM	33	CA	GLU	15	28.555	9.788	15.288	1.00	30.31	BLGL
ATOM	34	CB	GLU	15	29.002	8.546	14.534	1.00	33.96	BLGL
ATOM	35	CG	GLU	15	28.509	8.486	13.113	1.00	43.05	BLGL
ATOM	36	CD	GLU	15	28.927	7.202	12.424	1.00	49.32	BLGL
ATOM	37	OE1	GLU	15	28.886	6.140	13.087	1.00	51.29	BLGL
ATOM	38	OE2	GLU	15	29.285	7.251	11.223	1.00	54.28	BLGL
ATOM	39	C	GLU	15	27.045	9.931	15.206	1.00	28.83	BLGL
ATOM	40	O	GLU	15	26.303	9.161	15.816	1.00	26.88	BLGL
ATOM	41	N	LYS	16	26.596	10.923	14.445	1.00	29.24	BLGL
ATOM	42	CA	LYS	16	25.173	11.173	14.280	1.00	30.57	BLGL
ATOM	43	CB	LYS	16	24.933	12.207	13.174	1.00	32.52	BLGL
ATOM	44	CG	LYS	16	23.454	12.496	12.948	1.00	38.94	BLGL
ATOM	45	CD	LYS	16	23.141	12.889	11.510	1.00	43.38	BLGL
ATOM	46	CE	LYS	16	23.632	14.282	11.176	1.00	46.85	BLGL
ATOM	47	NZ	LYS	16	23.276	14.648	9.776	1.00	50.40	BLGL
ATOM	48	C	LYS	16	24.399	9.902	13.938	1.00	29.87	BLGL
ATOM	49	O	LYS	16	24.836	9.090	13.121	1.00	28.75	BLGL
ATOM	50	N	VAL	17	23.249	9.733	14.575	1.00	29.36	BLGL
ATOM	51	CA	VAL	17	22.394	8.591	14.306	1.00	29.25	BLGL
ATOM	52	CB	VAL	17	21.437	8.328	15.476	1.00	28.63	BLGL
ATOM	53	CG1	VAL	17	20.469	7.201	15.127	1.00	28.74	BLGL
ATOM	54	CG2	VAL	17	22.236	7.982	16.702	1.00	30.70	BLGL
ATOM	55	C	VAL	17	21.582	8.940	13.064	1.00	30.63	BLGL
ATOM	56	O	VAL	17	20.794	9.891	13.064	1.00	30.98	BLGL
ATOM	57	N	SER	18	21.782	8.172	12.005	1.00	30.58	BLGL
ATOM	58	CA	SER	18	21.083	8.422	10.758	1.00	33.73	BLGL
ATOM	59	CB	SER	18	21.787	7.675	9.628	1.00	36.18	BLGL
ATOM	60	OG	SER	18	21.984	6.324	9.990	1.00	38.96	BLGL
ATOM	61	C	SER	18	19.611	8.032	10.800	1.00	32.04	BLGL
ATOM	62	O	SER	18	19.264	6.933	11.231	1.00	31.91	BLGL
ATOM	63	N	GLY	19	18.755	8.950	10.359	1.00	31.92	BLGL
ATOM	64	CA	GLY	19	17.328	8.697	10.327	1.00	30.75	BLGL
ATOM	65	C	GLY	19	16.601	8.894	11.638	1.00	30.09	BLGL

Fig. 4

08 APR. 2003

127/174

PVS

ATOM	66	O	GLY	19	15.395	8.684	11.705	1.00	32.49	BLGL
ATOM	67	N	LEU	20	17.314	9.295	12.681	1.00	28.46	BLGL
ATOM	68	CA	LEU	20	16.672	9.498	13.967	1.00	28.28	BLGL
ATOM	69	CB	LEU	20	17.706	9.910	15.013	1.00	29.28	BLGL
ATOM	70	CG	LEU	20	17.141	9.983	16.436	1.00	29.10	BLGL
ATOM	71	CD1	LEU	20	16.756	8.586	16.904	1.00	27.36	BLGL
ATOM	72	CD2	LEU	20	18.165	10.598	17.359	1.00	29.58	BLGL
ATOM	73	C	LEU	20	15.565	10.548	13.890	1.00	25.87	BLGL
ATOM	74	O	LEU	20	15.821	11.686	13.535	1.00	24.28	BLGL
ATOM	75	N	ARG	21	14.342	10.147	14.226	1.00	28.07	BLGL
ATOM	76	CA	ARG	21	13.176	11.030	14.213	1.00	30.64	BLGL
ATOM	77	CB	ARG	21	11.912	10.211	14.476	1.00	31.64	BLGL
ATOM	78	CG	ARG	21	11.955	9.430	15.792	1.00	35.81	BLGL
ATOM	79	CD	ARG	21	10.892	8.339	15.840	1.00	36.79	BLGL
ATOM	80	NE	ARG	21	9.536	8.877	15.850	1.00	37.50	BLGL
ATOM	81	CZ	ARG	21	8.445	8.133	15.699	1.00	38.47	BLGL
ATOM	82	NH1	ARG	21	8.567	6.826	15.525	1.00	37.04	BLGL
ATOM	83	NH2	ARG	21	7.235	8.688	15.731	1.00	39.56	BLGL
ATOM	84	C	ARG	21	13.316	12.114	15.277	1.00	32.05	BLGL
ATOM	85	O	ARG	21	13.840	11.862	16.354	1.00	31.41	BLGL
ATOM	86	N	LYS	22	12.832	13.315	14.978	1.00	35.57	BLGL
ATOM	87	CA	LYS	22	12.927	14.428	15.916	1.00	37.84	BLGL
ATOM	88	CB	LYS	22	12.378	15.713	15.291	1.00	42.04	BLGL
ATOM	89	CG	LYS	22	13.278	16.381	14.265	1.00	47.84	BLGL
ATOM	90	CD	LYS	22	12.908	17.872	14.150	1.00	51.73	BLGL
ATOM	91	CE	LYS	22	13.460	18.518	12.882	1.00	52.80	BLGL
ATOM	92	NZ	LYS	22	12.732	18.062	11.661	1.00	52.64	BLGL
ATOM	93	C	LYS	22	12.225	14.227	17.253	1.00	36.42	BLGL
ATOM	94	O	LYS	22	12.672	14.762	18.264	1.00	37.54	BLGL
ATOM	95	N	ASP	23	11.128	13.476	17.262	1.00	34.94	BLGL
ATOM	96	CA	ASP	23	10.370	13.264	18.495	1.00	33.91	BLGL
ATOM	97	CB	ASP	23	8.869	13.257	18.181	1.00	34.54	BLGL
ATOM	98	CG	ASP	23	8.465	12.096	17.303	1.00	34.79	BLGL
ATOM	99	OD1	ASP	23	9.242	11.739	16.392	1.00	33.67	BLGL
ATOM	100	OD2	ASP	23	7.365	11.547	17.521	1.00	39.44	BLGL
ATOM	101	C	ASP	23	10.754	11.989	19.238	1.00	31.78	BLGL
ATOM	102	O	ASP	23	10.001	11.495	20.083	1.00	31.40	BLGL
ATOM	103	N	PHE	24	11.932	11.467	18.921	1.00	28.21	BLGL
ATOM	104	CA	PHE	24	12.423	10.256	19.551	1.00	25.65	BLGL
ATOM	105	CB	PHE	24	13.788	9.904	18.967	1.00	25.73	BLGL
ATOM	106	CG	PHE	24	14.281	8.538	19.337	1.00	25.81	BLGL
ATOM	107	CD1	PHE	24	15.134	8.359	20.422	1.00	25.77	BLGL
ATOM	108	CD2	PHE	24	13.930	7.431	18.573	1.00	25.98	BLGL
ATOM	109	CE1	PHE	24	15.642	7.093	20.739	1.00	25.74	BLGL
ATOM	110	CE2	PHE	24	14.431	6.161	18.881	1.00	27.08	BLGL
ATOM	111	CZ	PHE	24	15.292	5.992	19.967	1.00	24.69	BLGL
ATOM	112	C	PHE	24	12.517	10.473	21.055	1.00	22.99	BLGL
ATOM	113	O	PHE	24	12.961	11.520	21.519	1.00	23.30	BLGL
ATOM	114	N	ILE	25	12.077	9.474	21.804	1.00	19.49	BLGL
ATOM	115	CA	ILE	25	12.096	9.514	23.254	1.00	17.47	BLGL
ATOM	116	CB	ILE	25	11.137	8.465	23.820	1.00	15.37	BLGL
ATOM	117	CG2	ILE	25	11.388	8.253	25.306	1.00	13.70	BLGL
ATOM	118	CG1	ILE	25	9.706	8.883	23.524	1.00	13.77	BLGL
ATOM	119	CD1	ILE	25	8.696	7.834	23.915	1.00	18.01	BLGL
ATOM	120	C	ILE	25	13.487	9.227	23.799	1.00	17.49	BLGL
ATOM	121	O	ILE	25	14.091	8.211	23.465	1.00	16.53	BLGL
ATOM	122	N	LYS	26	13.985	10.128	24.637	1.00	16.78	BLGL
ATOM	123	CA	LYS	26	15.294	9.962	25.259	1.00	18.11	BLGL
ATOM	124	CB	LYS	26	16.213	11.096	24.825	1.00	19.07	BLGL
ATOM	125	CG	LYS	26	16.276	11.237	23.314	1.00	21.25	BLGL
ATOM	126	CD	LYS	26	16.943	12.520	22.899	1.00	23.74	BLGL
ATOM	127	CE	LYS	26	16.949	12.669	21.387	1.00	24.53	BLGL
ATOM	128	NZ	LYS	26	17.505	13.994	20.995	1.00	26.16	BLGL
ATOM	129	C	LYS	26	15.032	10.015	26.754	1.00	17.62	BLGL
ATOM	130	O	LYS	26	14.990	11.089	27.340	1.00	18.88	BLGL
ATOM	131	N	GLY	27	14.845	8.850	27.367	1.00	15.97	BLGL

Fig. 4 cont.

128/174

ATOM	132	CA	GLY	27	14.540	8.822	28.783	1.00	14.87	BLGL
ATOM	133	C	GLY	27	15.553	8.183	29.706	1.00	15.36	BLGL
ATOM	134	O	GLY	27	16.490	7.523	29.278	1.00	14.26	BLGL
ATOM	135	N	VAL	28	15.364	8.413	30.997	1.00	15.73	BLGL
ATOM	136	CA	VAL	28	16.233	7.847	32.002	1.00	15.81	BLGL
ATOM	137	CB	VAL	28	17.285	8.866	32.505	1.00	15.33	BLGL
ATOM	138	CG1	VAL	28	18.189	9.289	31.359	1.00	15.90	BLGL
ATOM	139	CG2	VAL	28	16.604	10.073	33.113	1.00	15.60	BLGL
ATOM	140	C	VAL	28	15.367	7.411	33.164	1.00	17.23	BLGL
ATOM	141	O	VAL	28	14.294	7.967	33.405	1.00	16.45	BLGL
ATOM	142	N	ASP	29	15.817	6.380	33.860	1.00	17.41	BLGL
ATOM	143	CA	ASP	29	15.098	5.902	35.023	1.00	18.06	BLGL
ATOM	144	CB	ASP	29	14.855	4.391	34.925	1.00	16.28	BLGL
ATOM	145	CG	ASP	29	14.123	3.832	36.138	1.00	18.27	BLGL
ATOM	146	OD1	ASP	29	13.426	2.801	35.978	1.00	15.84	BLGL
ATOM	147	OD2	ASP	29	14.258	4.409	37.246	1.00	14.09	BLGL
ATOM	148	C	ASP	29	16.006	6.248	36.201	1.00	17.72	BLGL
ATOM	149	O	ASP	29	17.075	5.670	36.362	1.00	18.18	BLGL
ATOM	150	N	VAL	30	15.592	7.228	36.994	1.00	17.06	BLGL
ATOM	151	CA	VAL	30	16.360	7.653	38.158	1.00	14.73	BLGL
ATOM	152	CB	VAL	30	16.740	9.151	38.051	1.00	13.70	BLGL
ATOM	153	CG1	VAL	30	17.688	9.354	36.880	1.00	12.16	BLGL
ATOM	154	CG2	VAL	30	15.485	10.017	37.872	1.00	9.08	BLGL
ATOM	155	C	VAL	30	15.551	7.422	39.426	1.00	14.73	BLGL
ATOM	156	O	VAL	30	15.491	8.275	40.302	1.00	16.61	BLGL
ATOM	157	N	SER	31	14.931	6.252	39.515	1.00	16.06	BLGL
ATOM	158	CA	SER	31	14.090	5.899	40.660	1.00	19.01	BLGL
ATOM	159	CB	SER	31	13.540	4.481	40.481	1.00	17.38	BLGL
ATOM	160	OG	SER	31	12.719	4.395	39.331	1.00	19.20	BLGL
ATOM	161	C	SER	31	14.769	6.007	42.030	1.00	19.31	BLGL
ATOM	162	O	SER	31	14.120	6.282	43.041	1.00	19.82	BLGL
ATOM	163	N	SER	32	16.075	5.797	42.059	1.00	18.54	BLGL
ATOM	164	CA	SER	32	16.826	5.845	43.301	1.00	19.36	BLGL
ATOM	165	CB	SER	32	18.121	5.055	43.133	1.00	18.42	BLGL
ATOM	166	OG	SER	32	18.909	5.611	42.088	1.00	16.54	BLGL
ATOM	167	C	SER	32	17.161	7.259	43.775	1.00	21.13	BLGL
ATOM	168	O	SER	32	17.612	7.442	44.902	1.00	20.54	BLGL
ATOM	169	N	ILE	33	16.931	8.256	42.925	1.00	21.96	BLGL
ATOM	170	CA	ILE	33	17.256	9.644	43.263	1.00	22.33	BLGL
ATOM	171	CB	ILE	33	16.752	10.622	42.161	1.00	21.13	BLGL
ATOM	172	CG2	ILE	33	15.234	10.621	42.095	1.00	19.56	BLGL
ATOM	173	CG1	ILE	33	17.283	12.027	42.439	1.00	20.03	BLGL
ATOM	174	CD1	ILE	33	18.794	12.117	42.425	1.00	17.45	BLGL
ATOM	175	C	ILE	33	16.796	10.152	44.636	1.00	23.71	BLGL
ATOM	176	O	ILE	33	17.549	10.858	45.309	1.00	25.43	BLGL
ATOM	177	N	ILE	34	15.581	9.797	45.059	1.00	24.35	BLGL
ATOM	178	CA	ILE	34	15.066	10.235	46.362	1.00	23.98	BLGL
ATOM	179	CB	ILE	34	13.539	9.951	46.486	1.00	23.20	BLGL
ATOM	180	CG2	ILE	34	13.170	9.637	47.922	1.00	24.75	BLGL
ATOM	181	CG1	ILE	34	12.735	11.183	46.063	1.00	20.84	BLGL
ATOM	182	CD1	ILE	34	13.078	11.696	44.729	1.00	21.81	BLGL
ATOM	183	C	ILE	34	15.815	9.598	47.550	1.00	24.38	BLGL
ATOM	184	O	ILE	34	16.186	10.290	48.502	1.00	25.31	BLGL
ATOM	185	N	ALA	35	16.041	8.290	47.500	1.00	22.66	BLGL
ATOM	186	CA	ALA	35	16.761	7.622	48.579	1.00	22.83	BLGL
ATOM	187	CB	ALA	35	16.803	6.117	48.344	1.00	20.64	BLGL
ATOM	188	C	ALA	35	18.178	8.165	48.681	1.00	23.42	BLGL
ATOM	189	O	ALA	35	18.687	8.377	49.776	1.00	25.98	BLGL
ATOM	190	N	LEU	36	18.813	8.382	47.536	1.00	23.28	BLGL
ATOM	191	CA	LEU	36	20.173	8.900	47.508	1.00	25.90	BLGL
ATOM	192	CB	LEU	36	20.726	8.908	46.073	1.00	26.42	BLGL
ATOM	193	CG	LEU	36	21.093	7.671	45.421	1.00	25.94	BLGL
ATOM	194	CD1	LEU	36	21.783	7.836	44.105	1.00	29.58	BLGL
ATOM	195	CD2	LEU	36	22.017	6.778	46.323	1.00	28.67	BLGL
ATOM	196	C	LEU	36	20.237	10.308	48.089	1.00	26.59	BLGL
ATOM	197	O	LEU	36	21.140	10.637	48.863	1.00	25.84	BLGL

Fig. 4 cont.

129/174

ATOM	198	N	GLU	37	19.282	11.144	47.708	1.00	26.12	BLGL
ATOM	199	CA	GLU	37	19.259	12.501	48.214	1.00	28.35	BLGL
ATOM	200	CB	GLU	37	18.092	13.264	47.594	1.00	26.08	BLGL
ATOM	201	CG	GLU	37	18.409	13.814	46.220	1.00	29.12	BLGL
ATOM	202	CD	GLU	37	17.238	14.542	45.612	1.00	30.50	BLGL
ATOM	203	OE1	GLU	37	17.422	15.243	44.593	1.00	26.60	BLGL
ATOM	204	OE2	GLU	37	16.128	14.400	46.163	1.00	35.60	BLGL
ATOM	205	C	GLU	37	19.170	12.526	49.739	1.00	28.90	BLGL
ATOM	206	O	GLU	37	19.828	13.334	50.393	1.00	30.03	BLGL
ATOM	207	N	GLU	38	18.366	11.633	50.301	1.00	29.70	BLGL
ATOM	208	CA	GLU	38	18.212	11.570	51.746	1.00	31.72	BLGL
ATOM	209	CB	GLU	38	17.037	10.677	52.125	1.00	31.95	BLGL
ATOM	210	CG	GLU	38	15.752	11.052	51.450	1.00	37.83	BLGL
ATOM	211	CD	GLU	38	14.562	10.379	52.094	1.00	40.58	BLGL
ATOM	212	OE1	GLU	38	14.609	9.150	52.302	1.00	39.84	BLGL
ATOM	213	OE2	GLU	38	13.578	11.086	52.390	1.00	45.75	BLGL
ATOM	214	C	GLU	38	19.467	11.026	52.415	1.00	32.56	BLGL
ATOM	215	O	GLU	38	19.641	11.156	53.627	1.00	36.26	BLGL
ATOM	216	N	SER	39	20.335	10.402	51.632	1.00	30.07	BLGL
ATOM	217	CA	SER	39	21.553	9.842	52.176	1.00	27.49	BLGL
ATOM	218	CB	SER	39	21.939	8.602	51.379	1.00	29.09	BLGL
ATOM	219	OG	SER	39	20.872	7.667	51.376	1.00	24.83	BLGL
ATOM	220	C	SER	39	22.660	10.882	52.133	1.00	28.20	BLGL
ATOM	221	O	SER	39	23.791	10.624	52.547	1.00	29.82	BLGL
ATOM	222	N	GLY	40	22.327	12.063	51.626	1.00	28.31	BLGL
ATOM	223	CA	GLY	40	23.303	13.135	51.558	1.00	29.30	BLGL
ATOM	224	C	GLY	40	23.975	13.332	50.214	1.00	29.65	BLGL
ATOM	225	O	GLY	40	24.717	14.296	50.031	1.00	31.52	BLGL
ATOM	226	N	VAL	41	23.730	12.428	49.272	1.00	28.29	BLGL
ATOM	227	CA	VAL	41	24.333	12.540	47.948	1.00	27.33	BLGL
ATOM	228	CB	VAL	41	24.014	11.299	47.075	1.00	26.80	BLGL
ATOM	229	CG1	VAL	41	24.634	11.458	45.699	1.00	24.11	BLGL
ATOM	230	CG2	VAL	41	24.531	10.034	47.754	1.00	25.53	BLGL
ATOM	231	C	VAL	41	23.816	13.788	47.242	1.00	27.51	BLGL
ATOM	232	O	VAL	41	22.630	14.107	47.315	1.00	27.71	BLGL
ATOM	233	N	ALA	42	24.716	14.496	46.568	1.00	28.05	BLGL
ATOM	234	CA	ALA	42	24.364	15.713	45.840	1.00	27.62	BLGL
ATOM	235	CB	ALA	42	24.952	16.935	46.538	1.00	26.85	BLGL
ATOM	236	C	ALA	42	24.898	15.624	44.415	1.00	28.00	BLGL
ATOM	237	O	ALA	42	25.918	14.986	44.158	1.00	29.09	BLGL
ATOM	238	N	PHE	43	24.205	16.267	43.489	1.00	27.56	BLGL
ATOM	239	CA	PHE	43	24.625	16.244	42.101	1.00	30.30	BLGL
ATOM	240	CB	PHE	43	23.529	15.626	41.223	1.00	29.43	BLGL
ATOM	241	CG	PHE	43	23.281	14.176	41.513	1.00	29.78	BLGL
ATOM	242	CD1	PHE	43	22.538	13.791	42.630	1.00	26.98	BLGL
ATOM	243	CD2	PHE	43	23.855	13.188	40.714	1.00	28.78	BLGL
ATOM	244	CE1	PHE	43	22.373	12.442	42.957	1.00	25.96	BLGL
ATOM	245	CE2	PHE	43	23.698	11.835	41.031	1.00	28.67	BLGL
ATOM	246	CZ	PHE	43	22.954	11.461	42.160	1.00	26.33	BLGL
ATOM	247	C	PHE	43	24.954	17.651	41.632	1.00	32.38	BLGL
ATOM	248	O	PHE	43	24.351	18.622	42.096	1.00	33.12	BLGL
ATOM	249	N	TYR	44	25.915	17.759	40.719	1.00	32.89	BLGL
ATOM	250	CA	TYR	44	26.326	19.054	40.203	1.00	34.23	BLGL
ATOM	251	CB	TYR	44	27.807	19.289	40.482	1.00	33.04	BLGL
ATOM	252	CG	TYR	44	28.165	19.083	41.926	1.00	33.71	BLGL
ATOM	253	CD1	TYR	44	28.177	17.809	42.481	1.00	32.43	BLGL
ATOM	254	CE1	TYR	44	28.453	17.617	43.820	1.00	35.78	BLGL
ATOM	255	CD2	TYR	44	28.444	20.167	42.752	1.00	34.36	BLGL
ATOM	256	CE2	TYR	44	28.721	19.986	44.099	1.00	34.85	BLGL
ATOM	257	CZ	TYR	44	28.722	18.708	44.627	1.00	35.70	BLGL
ATOM	258	OH	TYR	44	28.974	18.515	45.966	1.00	37.37	BLGL
ATOM	259	C	TYR	44	26.085	19.114	38.717	1.00	35.88	BLGL
ATOM	260	O	TYR	44	25.531	18.189	38.134	1.00	36.33	BLGL
ATOM	261	N	ASN	45	26.509	20.211	38.106	1.00	39.58	BLGL
ATOM	262	CA	ASN	45	26.350	20.391	36.672	1.00	43.09	BLGL
ATOM	263	CB	ASN	45	25.429	21.581	36.391	1.00	45.50	BLGL

Fig. 4 cont.

130/174

ATOM	264	CG	ASN	45	26.156	22.912	36.452	1.00	47.10	BLGL
ATOM	265	OD1	ASN	45	26.932	23.180	37.373	1.00	44.32	BLGL
ATOM	266	ND2	ASN	45	25.897	23.760	35.464	1.00	49.84	BLGL
ATOM	267	C	ASN	45	27.721	20.618	36.038	1.00	43.53	BLGL
ATOM	268	O	ASN	45	28.746	20.564	36.718	1.00	41.75	BLGL
ATOM	269	N	GLU	46	27.733	20.861	34.735	1.00	47.02	BLGL
ATOM	270	CA	GLU	46	28.979	21.090	34.011	1.00	51.61	BLGL
ATOM	271	CB	GLU	46	28.673	21.715	32.656	1.00	55.53	BLGL
ATOM	272	CG	GLU	46	27.635	20.976	31.820	1.00	59.75	BLGL
ATOM	273	CD	GLU	46	28.162	19.673	31.261	1.00	62.26	BLGL
ATOM	274	OE1	GLU	46	29.304	19.665	30.749	1.00	62.58	BLGL
ATOM	275	OE2	GLU	46	27.429	18.665	31.320	1.00	63.83	BLGL
ATOM	276	C	GLU	46	29.917	22.027	34.782	1.00	52.77	BLGL
ATOM	277	O	GLU	46	31.035	21.648	35.144	1.00	52.27	BLGL
ATOM	278	N	SER	47	29.440	23.248	35.029	1.00	53.78	BLGL
ATOM	279	CA	SER	47	30.197	24.288	35.723	1.00	54.29	BLGL
ATOM	280	CB	SER	47	29.312	25.518	35.940	1.00	56.24	BLGL
ATOM	281	OG	SER	47	28.822	26.029	34.707	1.00	57.54	BLGL
ATOM	282	C	SER	47	30.779	23.857	37.058	1.00	54.34	BLGL
ATOM	283	O	SER	47	31.720	24.477	37.552	1.00	56.28	BLGL
ATOM	284	N	GLY	48	30.215	22.812	37.651	1.00	53.12	BLGL
ATOM	285	CA	GLY	48	30.724	22.344	38.926	1.00	52.44	BLGL
ATOM	286	C	GLY	48	29.883	22.783	40.109	1.00	52.32	BLGL
ATOM	287	O	GLY	48	30.200	22.455	41.258	1.00	51.88	BLGL
ATOM	288	N	LYS	49	28.807	23.518	39.832	1.00	51.68	BLGL
ATOM	289	CA	LYS	49	27.919	24.009	40.882	1.00	50.92	BLGL
ATOM	290	CB	LYS	49	27.338	25.368	40.477	1.00	52.51	BLGL
ATOM	291	CG	LYS	49	26.440	25.314	39.255	1.00	54.74	BLGL
ATOM	292	CD	LYS	49	26.139	26.704	38.706	1.00	58.30	BLGL
ATOM	293	CE	LYS	49	25.326	27.551	39.672	1.00	59.50	BLGL
ATOM	294	NZ	LYS	49	25.039	28.909	39.112	1.00	61.13	BLGL
ATOM	295	C	LYS	49	26.779	23.039	41.204	1.00	49.26	BLGL
ATOM	296	O	LYS	49	26.215	22.391	40.320	1.00	50.56	BLGL
ATOM	297	N	LYS	50	26.444	22.953	42.483	1.00	46.67	BLGL
ATOM	298	CA	LYS	50	25.377	22.082	42.955	1.00	44.89	BLGL
ATOM	299	CB	LYS	50	25.229	22.272	44.465	1.00	44.47	BLGL
ATOM	300	CG	LYS	50	24.483	21.182	45.190	1.00	47.37	BLGL
ATOM	301	CD	LYS	50	24.732	21.290	46.692	1.00	50.81	BLGL
ATOM	302	CE	LYS	50	23.926	20.260	47.478	1.00	53.40	BLGL
ATOM	303	NZ	LYS	50	24.326	20.203	48.917	1.00	55.24	BLGL
ATOM	304	C	LYS	50	24.088	22.473	42.221	1.00	43.33	BLGL
ATOM	305	O	LYS	50	23.726	23.647	42.187	1.00	43.90	BLGL
ATOM	306	N	GLN	51	23.400	21.497	41.631	1.00	41.68	BLGL
ATOM	307	CA	GLN	51	22.167	21.765	40.884	1.00	38.41	BLGL
ATOM	308	CB	GLN	51	22.531	22.164	39.449	1.00	38.23	BLGL
ATOM	309	CG	GLN	51	21.352	22.358	38.507	1.00	38.66	BLGL
ATOM	310	CD	GLN	51	21.797	22.731	37.099	1.00	38.67	BLGL
ATOM	311	OE1	GLN	51	22.206	23.862	36.846	1.00	38.64	BLGL
ATOM	312	NE2	GLN	51	21.730	21.771	36.181	1.00	38.86	BLGL
ATOM	313	C	GLN	51	21.241	20.548	40.867	1.00	35.96	BLGL
ATOM	314	O	GLN	51	21.714	19.417	40.893	1.00	35.98	BLGL
ATOM	315	N	ASP	52	19.928	20.778	40.827	1.00	34.78	BLGL
ATOM	316	CA	ASP	52	18.955	19.677	40.797	1.00	34.16	BLGL
ATOM	317	CB	ASP	52	17.522	20.215	40.657	1.00	35.75	BLGL
ATOM	318	CG	ASP	52	16.475	19.100	40.603	1.00	36.25	BLGL
ATOM	319	OD1	ASP	52	15.271	19.396	40.465	1.00	35.18	BLGL
ATOM	320	OD2	ASP	52	16.857	17.919	40.703	1.00	41.59	BLGL
ATOM	321	C	ASP	52	19.269	18.760	39.610	1.00	33.33	BLGL
ATOM	322	O	ASP	52	19.475	19.231	38.483	1.00	33.59	BLGL
ATOM	323	N	ILE	53	19.294	17.454	39.856	1.00	29.47	BLGL
ATOM	324	CA	ILE	53	19.620	16.512	38.797	1.00	26.79	BLGL
ATOM	325	CB	ILE	53	19.692	15.059	39.336	1.00	25.32	BLGL
ATOM	326	CG2	ILE	53	18.304	14.567	39.715	1.00	24.80	BLGL
ATOM	327	CG1	ILE	53	20.326	14.147	38.277	1.00	25.86	BLGL
ATOM	328	CD1	ILE	53	20.638	12.753	38.777	1.00	25.81	BLGL
ATOM	329	C	ILE	53	18.644	16.588	37.631	1.00	25.41	BLGL

Fig. 4 cont.

131/174

ATOM	330	O	ILE	53	19.042	16.436	36.475	1.00	23.70	BLGL
ATOM	331	N	PHE	54	17.372	16.836	37.926	1.00	23.59	BLGL
ATOM	332	CA	PHE	54	16.380	16.930	36.868	1.00	25.83	BLGL
ATOM	333	CB	PHE	54	14.972	17.002	37.456	1.00	23.83	BLGL
ATOM	334	CG	PHE	54	14.526	15.723	38.072	1.00	22.74	BLGL
ATOM	335	CD1	PHE	54	14.799	15.449	39.402	1.00	25.01	BLGL
ATOM	336	CD2	PHE	54	13.885	14.760	37.306	1.00	21.32	BLGL
ATOM	337	CE1	PHE	54	14.443	14.229	39.961	1.00	27.14	BLGL
ATOM	338	CE2	PHE	54	13.525	13.537	37.856	1.00	23.72	BLGL
ATOM	339	CZ	PHE	54	13.803	13.268	39.184	1.00	24.12	BLGL
ATOM	340	C	PHE	54	16.641	18.121	35.953	1.00	27.75	BLGL
ATOM	341	O	PHE	54	16.378	18.064	34.753	1.00	27.66	BLGL
ATOM	342	N	ASN	55	17.167	19.197	36.522	1.00	30.60	BLGL
ATOM	343	CA	ASN	55	17.485	20.385	35.740	1.00	32.40	BLGL
ATOM	344	CB	ASN	55	17.927	21.528	36.665	1.00	38.72	BLGL
ATOM	345	CG	ASN	55	18.157	22.835	35.919	1.00	43.16	BLGL
ATOM	346	OD1	ASN	55	18.775	23.767	36.444	1.00	46.30	BLGL
ATOM	347	ND2	ASN	55	17.657	22.912	34.692	1.00	47.38	BLGL
ATOM	348	C	ASN	55	18.631	19.996	34.808	1.00	30.86	BLGL
ATOM	349	O	ASN	55	18.624	20.327	33.623	1.00	29.18	BLGL
ATOM	350	N	THR	56	19.608	19.281	35.363	1.00	28.42	BLGL
ATOM	351	CA	THR	56	20.765	18.824	34.606	1.00	26.82	BLGL
ATOM	352	CB	THR	56	21.769	18.101	35.514	1.00	27.58	BLGL
ATOM	353	OG1	THR	56	22.198	18.988	36.558	1.00	29.47	BLGL
ATOM	354	CG2	THR	56	22.969	17.642	34.714	1.00	22.45	BLGL
ATOM	355	C	THR	56	20.353	17.870	33.489	1.00	27.22	BLGL
ATOM	356	O	THR	56	20.851	17.952	32.366	1.00	27.23	BLGL
ATOM	357	N	LEU	57	19.441	16.961	33.805	1.00	27.52	BLGL
ATOM	358	CA	LEU	57	18.950	15.997	32.830	1.00	27.42	BLGL
ATOM	359	CB	LEU	57	17.978	15.033	33.508	1.00	26.87	BLGL
ATOM	360	CG	LEU	57	18.453	13.617	33.847	1.00	26.41	BLGL
ATOM	361	CD1	LEU	57	19.941	13.572	34.078	1.00	23.65	BLGL
ATOM	362	CD2	LEU	57	17.691	13.138	35.074	1.00	25.32	BLGL
ATOM	363	C	LEU	57	18.257	16.686	31.662	1.00	28.88	BLGL
ATOM	364	O	LEU	57	18.430	16.288	30.515	1.00	29.93	BLGL
ATOM	365	N	LYS	58	17.474	17.718	31.959	1.00	30.47	BLGL
ATOM	366	CA	LYS	58	16.757	18.455	30.926	1.00	30.56	BLGL
ATOM	367	CB	LYS	58	15.836	19.507	31.561	1.00	32.82	BLGL
ATOM	368	CG	LYS	58	15.038	20.330	30.551	1.00	33.72	BLGL
ATOM	369	CD	LYS	58	14.129	19.438	29.710	1.00	36.45	BLGL
ATOM	370	CE	LYS	58	13.279	20.253	28.732	1.00	38.35	BLGL
ATOM	371	NZ	LYS	58	12.233	19.436	28.049	1.00	36.51	BLGL
ATOM	372	C	LYS	58	17.726	19.135	29.969	1.00	30.23	BLGL
ATOM	373	O	LYS	58	17.564	19.064	28.753	1.00	31.14	BLGL
ATOM	374	N	GLU	59	18.734	19.793	30.522	1.00	30.65	BLGL
ATOM	375	CA	GLU	59	19.722	20.483	29.709	1.00	31.60	BLGL
ATOM	376	CB	GLU	59	20.668	21.275	30.610	1.00	35.74	BLGL
ATOM	377	CG	GLU	59	19.971	22.381	31.397	1.00	42.93	BLGL
ATOM	378	CD	GLU	59	20.839	22.960	32.511	1.00	48.75	BLGL
ATOM	379	OE1	GLU	59	20.327	23.818	33.264	1.00	51.01	BLGL
ATOM	380	OE2	GLU	59	22.026	22.558	32.638	1.00	51.49	BLGL
ATOM	381	C	GLU	59	20.511	19.493	28.862	1.00	30.47	BLGL
ATOM	382	O	GLU	59	21.086	19.859	27.838	1.00	30.17	BLGL
ATOM	383	N	ALA	60	20.531	18.235	29.293	1.00	29.36	BLGL
ATOM	384	CA	ALA	60	21.253	17.186	28.582	1.00	28.02	BLGL
ATOM	385	CB	ALA	60	21.611	16.065	29.543	1.00	29.83	BLGL
ATOM	386	C	ALA	60	20.461	16.623	27.406	1.00	27.47	BLGL
ATOM	387	O	ALA	60	20.975	15.807	26.643	1.00	26.82	BLGL
ATOM	388	N	GLY	61	19.208	17.048	27.269	1.00	27.12	BLGL
ATOM	389	CA	GLY	61	18.387	16.574	26.167	1.00	25.98	BLGL
ATOM	390	C	GLY	61	17.379	15.484	26.500	1.00	24.46	BLGL
ATOM	391	O	GLY	61	16.678	14.995	25.613	1.00	22.97	BLGL
ATOM	392	N	VAL	62	17.307	15.101	27.773	1.00	23.85	BLGL
ATOM	393	CA	VAL	62	16.373	14.075	28.223	1.00	22.41	BLGL
ATOM	394	CB	VAL	62	16.738	13.577	29.651	1.00	22.60	BLGL
ATOM	395	CG1	VAL	62	15.754	12.514	30.107	1.00	22.01	BLGL

Fig. 4 cont.

132/174

ATOM	396	CG2	VAL	62	18.146	13.018	29.664	1.00	20.65	BLGL
ATOM	397	C	VAL	62	14.958	14.658	28.230	1.00	22.28	BLGL
ATOM	398	O	VAL	62	14.743	15.783	28.686	1.00	24.37	BLGL
ATOM	399	N	ASN	63	13.997	13.896	27.721	1.00	20.64	BLGL
ATOM	400	CA	ASN	63	12.615	14.356	27.660	1.00	21.22	BLGL
ATOM	401	CB	ASN	63	12.203	14.546	26.204	1.00	20.41	BLGL
ATOM	402	CG	ASN	63	12.528	13.337	25.349	1.00	20.90	BLGL
ATOM	403	OD1	ASN	63	12.248	12.195	25.723	1.00	22.33	BLGL
ATOM	404	ND2	ASN	63	13.112	13.581	24.189	1.00	20.98	BLGL
ATOM	405	C	ASN	63	11.641	13.396	28.330	1.00	21.56	BLGL
ATOM	406	O	ASN	63	10.426	13.606	28.304	1.00	24.89	BLGL
ATOM	407	N	TYR	64	12.171	12.346	28.939	1.00	19.85	BLGL
ATOM	408	CA	TYR	64	11.323	11.360	29.578	1.00	18.37	BLGL
ATOM	409	CB	TYR	64	11.054	10.226	28.590	1.00	18.15	BLGL
ATOM	410	CG	TYR	64	9.601	10.025	28.244	1.00	18.02	BLGL
ATOM	411	CD1	TYR	64	8.724	9.446	29.155	1.00	16.59	BLGL
ATOM	412	CE1	TYR	64	7.397	9.210	28.821	1.00	17.75	BLGL
ATOM	413	CD2	TYR	64	9.109	10.375	26.985	1.00	20.14	BLGL
ATOM	414	CE2	TYR	64	7.781	10.145	26.640	1.00	17.07	BLGL
ATOM	415	CZ	TYR	64	6.935	9.560	27.562	1.00	18.10	BLGL
ATOM	416	OH	TYR	64	5.634	9.301	27.223	1.00	19.97	BLGL
ATOM	417	C	TYR	64	11.963	10.804	30.839	1.00	17.64	BLGL
ATOM	418	O	TYR	64	13.181	10.683	30.927	1.00	17.84	BLGL
ATOM	419	N	VAL	65	11.137	10.470	31.819	1.00	15.63	BLGL
ATOM	420	CA	VAL	65	11.644	9.905	33.050	1.00	16.50	BLGL
ATOM	421	CB	VAL	65	11.567	10.909	34.215	1.00	15.92	BLGL
ATOM	422	CG1	VAL	65	11.909	10.207	35.522	1.00	14.90	BLGL
ATOM	423	CG2	VAL	65	12.536	12.055	33.975	1.00	14.25	BLGL
ATOM	424	C	VAL	65	10.847	8.668	33.414	1.00	15.70	BLGL
ATOM	425	O	VAL	65	9.621	8.691	33.388	1.00	16.30	BLGL
ATOM	426	N	ARG	66	11.548	7.587	33.740	1.00	15.28	BLGL
ATOM	427	CA	ARG	66	10.898	6.343	34.126	1.00	14.69	BLGL
ATOM	428	CB	ARG	66	11.520	5.145	33.396	1.00	12.92	BLGL
ATOM	429	CG	ARG	66	10.676	3.897	33.521	1.00	16.36	BLGL
ATOM	430	CD	ARG	66	11.131	2.751	32.621	1.00	17.95	BLGL
ATOM	431	NE	ARG	66	11.997	1.835	33.347	1.00	21.82	BLGL
ATOM	432	CZ	ARG	66	11.882	0.514	33.336	1.00	20.23	BLGL
ATOM	433	NH1	ARG	66	10.933	-0.072	32.628	1.00	20.47	BLGL
ATOM	434	NH2	ARG	66	12.720	-0.218	34.050	1.00	22.65	BLGL
ATOM	435	C	ARG	66	11.049	6.155	35.627	1.00	15.52	BLGL
ATOM	436	O	ARG	66	12.097	6.461	36.194	1.00	19.23	BLGL
ATOM	437	N	VAL	67	10.003	5.663	36.277	1.00	14.45	BLGL
ATOM	438	CA	VAL	67	10.065	5.437	37.709	1.00	14.29	BLGL
ATOM	439	CB	VAL	67	9.387	6.591	38.500	1.00	14.34	BLGL
ATOM	440	CG1	VAL	67	8.010	6.866	37.946	1.00	15.07	BLGL
ATOM	441	CG2	VAL	67	9.279	6.226	39.974	1.00	14.76	BLGL
ATOM	442	C	VAL	67	9.380	4.134	38.050	1.00	13.80	BLGL
ATOM	443	O	VAL	67	8.243	3.902	37.652	1.00	16.06	BLGL
ATOM	444	N	ARG	68	10.084	3.274	38.772	1.00	12.24	BLGL
ATOM	445	CA	ARG	68	9.512	2.007	39.170	1.00	13.36	BLGL
ATOM	446	CB	ARG	68	10.613	0.987	39.505	1.00	15.94	BLGL
ATOM	447	CG	ARG	68	11.653	1.445	40.530	1.00	16.59	BLGL
ATOM	448	CD	ARG	68	12.582	0.299	40.946	1.00	17.71	BLGL
ATOM	449	NE	ARG	68	13.727	0.787	41.717	1.00	20.66	BLGL
ATOM	450	CZ	ARG	68	14.806	1.365	41.187	1.00	19.69	BLGL
ATOM	451	NH1	ARG	68	15.791	1.788	41.964	1.00	18.60	BLGL
ATOM	452	NH2	ARG	68	14.912	1.502	39.876	1.00	19.53	BLGL
ATOM	453	C	ARG	68	8.621	2.250	40.383	1.00	16.28	BLGL
ATOM	454	O	ARG	68	8.875	3.152	41.185	1.00	13.92	BLGL
ATOM	455	N	ILE	69	7.567	1.449	40.506	1.00	16.59	BLGL
ATOM	456	CA	ILE	69	6.649	1.582	41.619	1.00	17.08	BLGL
ATOM	457	CB	ILE	69	5.331	2.254	41.176	1.00	17.80	BLGL
ATOM	458	CG2	ILE	69	4.442	2.505	42.392	1.00	16.20	BLGL
ATOM	459	CG1	ILE	69	5.634	3.577	40.463	1.00	18.54	BLGL
ATOM	460	CD1	ILE	69	4.420	4.258	39.861	1.00	16.60	BLGL
ATOM	461	C	ILE	69	6.326	0.224	42.227	1.00	19.49	BLGL

Fig. 4 cont.

133/174

ATOM	462	O	ILE	69	5.851	-0.684	41.537	1.00	21.07	BLGL
ATOM	463	N	TRP	70	6.613	0.088	43.518	1.00	19.80	BLGL
ATOM	464	CA	TRP	70	6.329	-1.132	44.261	1.00	20.02	BLGL
ATOM	465	CB	TRP	70	7.534	-1.548	45.108	1.00	20.03	BLGL
ATOM	466	CG	TRP	70	8.693	-2.052	44.299	1.00	20.74	BLGL
ATOM	467	CD2	TRP	70	10.078	-1.707	44.460	1.00	20.58	BLGL
ATOM	468	CE2	TRP	70	10.807	-2.445	43.496	1.00	20.35	BLGL
ATOM	469	CE3	TRP	70	10.774	-0.847	45.322	1.00	19.46	BLGL
ATOM	470	CD1	TRP	70	8.643	-2.958	43.278	1.00	20.51	BLGL
ATOM	471	NE1	TRP	70	9.906	-3.198	42.791	1.00	18.08	BLGL
ATOM	472	CZ2	TRP	70	12.200	-2.350	43.372	1.00	17.40	BLGL
ATOM	473	CZ3	TRP	70	12.162	-0.752	45.197	1.00	18.53	BLGL
ATOM	474	CH2	TRP	70	12.856	-1.501	44.227	1.00	17.88	BLGL
ATOM	475	C	TRP	70	5.145	-0.805	45.164	1.00	21.18	BLGL
ATOM	476	O	TRP	70	5.010	0.328	45.626	1.00	20.39	BLGL
ATOM	477	N	ASN	71	4.279	-1.782	45.405	1.00	21.89	BLGL
ATOM	478	CA	ASN	71	3.105	-1.553	46.238	1.00	23.11	BLGL
ATOM	479	CB	ASN	71	2.204	-2.787	46.234	1.00	21.89	BLGL
ATOM	480	CG	ASN	71	1.600	-3.059	44.875	1.00	24.42	BLGL
ATOM	481	OD1	ASN	71	2.312	-3.325	43.907	1.00	24.93	BLGL
ATOM	482	ND2	ASN	71	0.277	-2.986	44.792	1.00	24.52	BLGL
ATOM	483	C	ASN	71	3.454	-1.182	47.673	1.00	23.89	BLGL
ATOM	484	O	ASN	71	3.114	-0.093	48.150	1.00	23.65	BLGL
ATOM	485	N	ASP	72	4.139	-2.094	48.356	1.00	25.19	BLGL
ATOM	486	CA	ASP	72	4.531	-1.888	49.747	1.00	24.90	BLGL
ATOM	487	CB	ASP	72	3.576	-2.642	50.669	1.00	24.77	BLGL
ATOM	488	CG	ASP	72	3.706	-2.214	52.105	1.00	25.24	BLGL
ATOM	489	OD1	ASP	72	3.494	-3.063	52.990	1.00	26.84	BLGL
ATOM	490	OD2	ASP	72	4.006	-1.026	52.346	1.00	24.35	BLGL
ATOM	491	C	ASP	72	5.953	-2.384	49.997	1.00	24.58	BLGL
ATOM	492	O	ASP	72	6.151	-3.472	50.538	1.00	25.47	BLGL
ATOM	493	N	PRO	73	6.962	-1.586	49.619	1.00	24.27	BLGL
ATOM	494	CD	PRO	73	6.856	-0.281	48.940	1.00	23.33	BLGL
ATOM	495	CA	PRO	73	8.366	-1.962	49.805	1.00	24.32	BLGL
ATOM	496	CB	PRO	73	9.091	-1.009	48.866	1.00	24.01	BLGL
ATOM	497	CG	PRO	73	8.272	0.237	49.001	1.00	23.40	BLGL
ATOM	498	C	PRO	73	8.863	-1.840	51.248	1.00	27.14	BLGL
ATOM	499	O	PRO	73	9.987	-1.395	51.491	1.00	28.54	BLGL
ATOM	500	N	TYR	74	8.033	-2.233	52.208	1.00	27.12	BLGL
ATOM	501	CA	TYR	74	8.429	-2.147	53.609	1.00	26.57	BLGL
ATOM	502	CB	TYR	74	7.838	-0.889	54.256	1.00	25.70	BLGL
ATOM	503	CG	TYR	74	8.022	0.386	53.463	1.00	21.92	BLGL
ATOM	504	CD1	TYR	74	7.148	0.721	52.427	1.00	22.26	BLGL
ATOM	505	CE1	TYR	74	7.304	1.909	51.707	1.00	21.83	BLGL
ATOM	506	CD2	TYR	74	9.057	1.265	53.758	1.00	18.92	BLGL
ATOM	507	CE2	TYR	74	9.223	2.448	53.049	1.00	19.47	BLGL
ATOM	508	CZ	TYR	74	8.345	2.766	52.026	1.00	21.06	BLGL
ATOM	509	OH	TYR	74	8.503	3.939	51.323	1.00	21.16	BLGL
ATOM	510	C	TYR	74	7.970	-3.371	54.395	1.00	26.69	BLGL
ATOM	511	O	TYR	74	7.119	-4.131	53.928	1.00	26.70	BLGL
ATOM	512	N	ASP	75	8.547	-3.568	55.579	1.00	25.47	BLGL
ATOM	513	CA	ASP	75	8.151	-4.687	56.422	1.00	25.66	BLGL
ATOM	514	CB	ASP	75	9.348	-5.260	57.201	1.00	26.96	BLGL
ATOM	515	CG	ASP	75	9.948	-4.282	58.207	1.00	26.69	BLGL
ATOM	516	OD1	ASP	75	10.931	-4.668	58.867	1.00	25.84	BLGL
ATOM	517	OD2	ASP	75	9.455	-3.146	58.350	1.00	28.52	BLGL
ATOM	518	C	ASP	75	7.060	-4.208	57.367	1.00	26.20	BLGL
ATOM	519	O	ASP	75	6.634	-3.063	57.286	1.00	27.42	BLGL
ATOM	520	N	ALA	76	6.602	-5.078	58.255	1.00	27.05	BLGL
ATOM	521	CA	ALA	76	5.535	-4.722	59.184	1.00	28.91	BLGL
ATOM	522	CB	ALA	76	5.304	-5.869	60.153	1.00	29.44	BLGL
ATOM	523	C	ALA	76	5.793	-3.438	59.964	1.00	29.89	BLGL
ATOM	524	O	ALA	76	4.873	-2.666	60.241	1.00	31.61	BLGL
ATOM	525	N	ASN	77	7.051	-3.213	60.307	1.00	29.94	BLGL
ATOM	526	CA	ASN	77	7.445	-2.059	61.091	1.00	30.08	BLGL
ATOM	527	CB	ASN	77	8.619	-2.460	61.970	1.00	30.88	BLGL

Fig. 4 cont.

134/174

ATOM	528	CG	ASN	77	8.337	-3.728	62.740	1.00	31.46	BLGL
ATOM	529	OD1	ASN	77	9.085	-4.700	62.659	1.00	35.40	BLGL
ATOM	530	ND2	ASN	77	7.241	-3.729	63.485	1.00	29.08	BLGL
ATOM	531	C	ASN	77	7.768	-0.802	60.294	1.00	30.14	BLGL
ATOM	532	O	ASN	77	8.048	0.249	60.874	1.00	31.47	BLGL
ATOM	533	N	GLY	78	7.742	-0.906	58.971	1.00	29.60	BLGL
ATOM	534	CA	GLY	78	7.998	0.260	58.146	1.00	30.47	BLGL
ATOM	535	C	GLY	78	9.422	0.434	57.665	1.00	30.69	BLGL
ATOM	536	O	GLY	78	9.803	1.524	57.243	1.00	31.23	BLGL
ATOM	537	N	ASN	79	10.212	-0.631	57.735	1.00	30.64	BLGL
ATOM	538	CA	ASN	79	11.599	-0.586	57.285	1.00	31.66	BLGL
ATOM	539	CB	ASN	79	12.437	-1.618	58.043	1.00	32.77	BLGL
ATOM	540	CG	ASN	79	12.478	-1.356	59.539	1.00	32.28	BLGL
ATOM	541	OD1	ASN	79	12.875	-0.277	59.981	1.00	31.97	BLGL
ATOM	542	ND2	ASN	79	12.074	-2.346	60.325	1.00	29.86	BLGL
ATOM	543	C	ASN	79	11.652	-0.888	55.788	1.00	31.40	BLGL
ATOM	544	O	ASN	79	11.253	-1.971	55.352	1.00	31.55	BLGL
ATOM	545	N	GLY	80	12.146	0.072	55.013	1.00	30.48	BLGL
ATOM	546	CA	GLY	80	12.224	-0.092	53.573	1.00	28.01	BLGL
ATOM	547	C	GLY	80	13.066	-1.265	53.132	1.00	26.92	BLGL
ATOM	548	O	GLY	80	14.104	-1.544	53.737	1.00	28.09	BLGL
ATOM	549	N	TYR	81	12.611	-1.958	52.089	1.00	25.24	BLGL
ATOM	550	CA	TYR	81	13.330	-3.110	51.539	1.00	24.70	BLGL
ATOM	551	CB	TYR	81	12.446	-3.891	50.559	1.00	26.19	BLGL
ATOM	552	CG	TYR	81	11.309	-4.704	51.155	1.00	28.51	BLGL
ATOM	553	CD1	TYR	81	10.337	-5.264	50.324	1.00	30.98	BLGL
ATOM	554	CE1	TYR	81	9.285	-6.014	50.836	1.00	33.39	BLGL
ATOM	555	CD2	TYR	81	11.202	-4.919	52.525	1.00	27.25	BLGL
ATOM	556	CE2	TYR	81	10.151	-5.673	53.053	1.00	30.71	BLGL
ATOM	557	CZ	TYR	81	9.191	-6.218	52.201	1.00	32.59	BLGL
ATOM	558	OH	TYR	81	8.134	-6.955	52.701	1.00	29.32	BLGL
ATOM	559	C	TYR	81	14.581	-2.643	50.791	1.00	23.17	BLGL
ATOM	560	O	TYR	81	15.424	-3.449	50.411	1.00	22.30	BLGL
ATOM	561	N	GLY	82	14.692	-1.337	50.575	1.00	22.25	BLGL
ATOM	562	CA	GLY	82	15.840	-0.812	49.863	1.00	22.06	BLGL
ATOM	563	C	GLY	82	15.544	-0.631	48.388	1.00	23.07	BLGL
ATOM	564	O	GLY	82	14.392	-0.466	47.994	1.00	22.83	BLGL
ATOM	565	N	GLY	83	16.582	-0.660	47.561	1.00	23.84	BLGL
ATOM	566	CA	GLY	83	16.384	-0.485	46.133	1.00	23.31	BLGL
ATOM	567	C	GLY	83	15.731	0.843	45.796	1.00	23.19	BLGL
ATOM	568	O	GLY	83	15.219	1.024	44.693	1.00	23.86	BLGL
ATOM	569	N	GLY	84	15.740	1.772	46.748	1.00	22.55	BLGL
ATOM	570	CA	GLY	84	15.142	3.075	46.514	1.00	18.60	BLGL
ATOM	571	C	GLY	84	13.832	3.262	47.243	1.00	18.25	BLGL
ATOM	572	O	GLY	84	13.282	4.354	47.254	1.00	19.59	BLGL
ATOM	573	N	ASN	85	13.339	2.199	47.867	1.00	18.82	BLGL
ATOM	574	CA	ASN	85	12.070	2.246	48.591	1.00	22.71	BLGL
ATOM	575	CB	ASN	85	12.217	3.011	49.914	1.00	22.20	BLGL
ATOM	576	CG	ASN	85	13.143	2.319	50.902	1.00	24.42	BLGL
ATOM	577	OD1	ASN	85	13.320	1.102	50.869	1.00	25.77	BLGL
ATOM	578	ND2	ASN	85	13.721	3.098	51.806	1.00	25.80	BLGL
ATOM	579	C	ASN	85	11.004	2.929	47.729	1.00	23.49	BLGL
ATOM	580	O	ASN	85	10.235	3.761	48.214	1.00	23.21	BLGL
ATOM	581	N	ASN	86	10.950	2.566	46.452	1.00	23.70	BLGL
ATOM	582	CA	ASN	86	10.001	3.196	45.546	1.00	24.44	BLGL
ATOM	583	CB	ASN	86	10.447	3.008	44.106	1.00	21.35	BLGL
ATOM	584	CG	ASN	86	11.781	3.627	43.847	1.00	21.48	BLGL
ATOM	585	OD1	ASN	86	12.811	2.972	43.976	1.00	22.65	BLGL
ATOM	586	ND2	ASN	86	11.781	4.908	43.500	1.00	20.47	BLGL
ATOM	587	C	ASN	86	8.546	2.785	45.679	1.00	25.13	BLGL
ATOM	588	O	ASN	86	8.159	1.666	45.357	1.00	23.77	BLGL
ATOM	589	N	ASP	87	7.742	3.723	46.155	1.00	25.52	BLGL
ATOM	590	CA	ASP	87	6.323	3.500	46.323	1.00	26.02	BLGL
ATOM	591	CB	ASP	87	5.954	3.547	47.803	1.00	25.67	BLGL
ATOM	592	CG	ASP	87	6.584	4.724	48.524	1.00	30.07	BLGL
ATOM	593	OD1	ASP	87	6.994	5.705	47.851	1.00	29.90	BLGL

Fig. 4 cont.

135/174

ATOM	594	OD2	ASP	87	6.656	4.668	49.771	1.00	31.21	BLGL
ATOM	595	C	ASP	87	5.625	4.613	45.566	1.00	25.13	BLGL
ATOM	596	O	ASP	87	6.276	5.396	44.877	1.00	25.07	BLGL
ATOM	597	N	LEU	88	4.307	4.693	45.694	1.00	25.05	BLGL
ATOM	598	CA	LEU	88	3.566	5.732	44.996	1.00	27.31	BLGL
ATOM	599	CB	LEU	88	2.059	5.528	45.183	1.00	25.49	BLGL
ATOM	600	CG	LEU	88	1.163	6.603	44.564	1.00	23.47	BLGL
ATOM	601	CD1	LEU	88	1.378	6.668	43.059	1.00	23.31	BLGL
ATOM	602	CD2	LEU	88	-0.283	6.294	44.880	1.00	23.48	BLGL
ATOM	603	C	LEU	88	3.956	7.146	45.440	1.00	28.05	BLGL
ATOM	604	O	LEU	88	3.942	8.072	44.633	1.00	28.88	BLGL
ATOM	605	N	GLU	89	4.310	7.312	46.713	1.00	28.47	BLGL
ATOM	606	CA	GLU	89	4.679	8.627	47.223	1.00	31.19	BLGL
ATOM	607	CB	GLU	89	4.884	8.596	48.743	1.00	38.35	BLGL
ATOM	608	CG	GLU	89	4.732	7.224	49.404	1.00	49.47	BLGL
ATOM	609	CD	GLU	89	3.309	6.673	49.355	1.00	54.88	BLGL
ATOM	610	OE1	GLU	89	3.095	5.617	48.709	1.00	55.88	BLGL
ATOM	611	OE2	GLU	89	2.413	7.297	49.968	1.00	58.86	BLGL
ATOM	612	C	GLU	89	5.931	9.157	46.547	1.00	28.83	BLGL
ATOM	613	O	GLU	89	5.958	10.293	46.083	1.00	29.30	BLGL
ATOM	614	N	LYS	90	6.970	8.337	46.486	1.00	27.00	BLGL
ATOM	615	CA	LYS	90	8.202	8.758	45.833	1.00	25.31	BLGL
ATOM	616	CB	LYS	90	9.308	7.731	46.074	1.00	24.21	BLGL
ATOM	617	CG	LYS	90	9.730	7.618	47.526	1.00	23.42	BLGL
ATOM	618	CD	LYS	90	11.003	6.815	47.664	1.00	23.39	BLGL
ATOM	619	CE	LYS	90	11.521	6.845	49.092	1.00	22.77	BLGL
ATOM	620	NZ	LYS	90	10.589	6.181	50.039	1.00	24.27	BLGL
ATOM	621	C	LYS	90	7.966	8.940	44.333	1.00	24.86	BLGL
ATOM	622	O	LYS	90	8.604	9.779	43.696	1.00	23.88	BLGL
ATOM	623	N	ALA	91	7.043	8.157	43.776	1.00	22.89	BLGL
ATOM	624	CA	ALA	91	6.727	8.252	42.362	1.00	23.29	BLGL
ATOM	625	CB	ALA	91	5.709	7.175	41.972	1.00	21.21	BLGL
ATOM	626	C	ALA	91	6.172	9.644	42.060	1.00	23.82	BLGL
ATOM	627	O	ALA	91	6.501	10.244	41.042	1.00	24.10	BLGL
ATOM	628	N	ILE	92	5.335	10.154	42.956	1.00	24.44	BLGL
ATOM	629	CA	ILE	92	4.743	11.471	42.782	1.00	25.65	BLGL
ATOM	630	CB	ILE	92	3.549	11.651	43.748	1.00	26.69	BLGL
ATOM	631	CG2	ILE	92	2.943	13.041	43.600	1.00	25.04	BLGL
ATOM	632	CG1	ILE	92	2.484	10.602	43.418	1.00	27.42	BLGL
ATOM	633	CD1	ILE	92	1.341	10.553	44.385	1.00	25.99	BLGL
ATOM	634	C	ILE	92	5.794	12.568	42.992	1.00	25.95	BLGL
ATOM	635	O	ILE	92	5.800	13.575	42.286	1.00	26.66	BLGL
ATOM	636	N	GLN	93	6.687	12.367	43.956	1.00	25.21	BLGL
ATOM	637	CA	GLN	93	7.746	13.332	44.206	1.00	25.19	BLGL
ATOM	638	CB	GLN	93	8.623	12.886	45.369	1.00	27.76	BLGL
ATOM	639	CG	GLN	93	8.285	13.505	46.705	1.00	33.90	BLGL
ATOM	640	CD	GLN	93	9.215	13.020	47.818	1.00	38.24	BLGL
ATOM	641	OE1	GLN	93	9.088	11.890	48.303	1.00	35.85	BLGL
ATOM	642	NE2	GLN	93	10.165	13.873	48.216	1.00	40.86	BLGL
ATOM	643	C	GLN	93	8.595	13.427	42.949	1.00	24.82	BLGL
ATOM	644	O	GLN	93	8.870	14.514	42.454	1.00	27.29	BLGL
ATOM	645	N	ILE	94	9.008	12.276	42.434	1.00	23.84	BLGL
ATOM	646	CA	ILE	94	9.818	12.225	41.223	1.00	21.73	BLGL
ATOM	647	CB	ILE	94	10.263	10.772	40.929	1.00	20.65	BLGL
ATOM	648	CG2	ILE	94	10.936	10.687	39.568	1.00	19.77	BLGL
ATOM	649	CG1	ILE	94	11.202	10.293	42.043	1.00	18.55	BLGL
ATOM	650	CD1	ILE	94	11.644	8.866	41.914	1.00	12.93	BLGL
ATOM	651	C	ILE	94	9.027	12.770	40.038	1.00	21.61	BLGL
ATOM	652	O	ILE	94	9.545	13.553	39.232	1.00	19.49	BLGL
ATOM	653	N	GLY	95	7.764	12.362	39.955	1.00	22.02	BLGL
ATOM	654	CA	GLY	95	6.897	12.798	38.876	1.00	23.64	BLGL
ATOM	655	C	GLY	95	6.787	14.302	38.771	1.00	24.52	BLGL
ATOM	656	O	GLY	95	6.932	14.870	37.683	1.00	24.81	BLGL
ATOM	657	N	LYS	96	6.526	14.947	39.907	1.00	26.80	BLGL
ATOM	658	CA	LYS	96	6.401	16.403	39.971	1.00	26.56	BLGL
ATOM	659	CB	LYS	96	6.095	16.844	41.401	1.00	26.83	BLGL

Fig. 4 cont.

136/174

ATOM	660	CG	LYS	96	4.653	16.630	41.818	1.00	30.58	BLGL
ATOM	661	CD	LYS	96	4.413	17.224	43.192	1.00	34.86	BLGL
ATOM	662	CE	LYS	96	2.939	17.256	43.541	1.00	38.91	BLGL
ATOM	663	NZ	LYS	96	2.712	17.810	44.909	1.00	42.19	BLGL
ATOM	664	C	LYS	96	7.663	17.106	39.474	1.00	26.13	BLGL
ATOM	665	O	LYS	96	7.592	18.041	38.676	1.00	25.77	BLGL
ATOM	666	N	ARG	97	8.818	16.649	39.946	1.00	26.45	BLGL
ATOM	667	CA	ARG	97	10.089	17.232	39.533	1.00	25.62	BLGL
ATOM	668	CB	ARG	97	11.229	16.598	40.335	1.00	26.14	BLGL
ATOM	669	CG	ARG	97	11.105	16.909	41.824	1.00	28.26	BLGL
ATOM	670	CD	ARG	97	12.157	16.228	42.687	1.00	28.70	BLGL
ATOM	671	NE	ARG	97	13.514	16.674	42.385	1.00	30.96	BLGL
ATOM	672	CZ	ARG	97	14.593	16.211	43.007	1.00	29.36	BLGL
ATOM	673	NH1	ARG	97	14.460	15.297	43.959	1.00	26.96	BLGL
ATOM	674	NH2	ARG	97	15.799	16.650	42.671	1.00	26.20	BLGL
ATOM	675	C	ARG	97	10.310	17.060	38.032	1.00	24.94	BLGL
ATOM	676	O	ARG	97	10.778	17.973	37.354	1.00	24.07	BLGL
ATOM	677	N	ALA	98	9.959	15.890	37.510	1.00	24.88	BLGL
ATOM	678	CA	ALA	98	10.104	15.626	36.084	1.00	24.73	BLGL
ATOM	679	CB	ALA	98	9.673	14.198	35.771	1.00	26.89	BLGL
ATOM	680	C	ALA	98	9.265	16.620	35.277	1.00	24.32	BLGL
ATOM	681	O	ALA	98	9.715	17.145	34.256	1.00	21.35	BLGL
ATOM	682	N	ASN	99	8.041	16.875	35.727	1.00	25.11	BLGL
ATOM	683	CA	ASN	99	7.196	17.830	35.019	1.00	27.26	BLGL
ATOM	684	CB	ASN	99	5.802	17.871	35.601	1.00	29.92	BLGL
ATOM	685	CG	ASN	99	5.039	16.631	35.330	1.00	36.77	BLGL
ATOM	686	OD1	ASN	99	3.817	16.649	35.364	1.00	43.97	BLGL
ATOM	687	ND2	ASN	99	5.743	15.529	35.063	1.00	38.67	BLGL
ATOM	688	C	ASN	99	7.766	19.229	35.096	1.00	26.84	BLGL
ATOM	689	O	ASN	99	7.850	19.919	34.090	1.00	29.38	BLGL
ATOM	690	N	ALA	100	8.143	19.652	36.298	1.00	23.90	BLGL
ATOM	691	CA	ALA	100	8.689	20.982	36.481	1.00	23.21	BLGL
ATOM	692	CB	ALA	100	9.214	21.137	37.894	1.00	20.39	BLGL
ATOM	693	C	ALA	100	9.800	21.244	35.470	1.00	25.29	BLGL
ATOM	694	O	ALA	100	10.088	22.394	35.141	1.00	26.23	BLGL
ATOM	695	N	ASN	101	10.409	20.174	34.963	1.00	25.14	BLGL
ATOM	696	CA	ASN	101	11.492	20.307	33.998	1.00	25.17	BLGL
ATOM	697	CB	ASN	101	12.696	19.515	34.483	1.00	24.95	BLGL
ATOM	698	CG	ASN	101	13.280	20.091	35.747	1.00	25.85	BLGL
ATOM	699	OD1	ASN	101	13.914	21.145	35.719	1.00	29.40	BLGL
ATOM	700	ND2	ASN	101	13.054	19.422	36.868	1.00	24.97	BLGL
ATOM	701	C	ASN	101	11.118	19.898	32.582	1.00	25.90	BLGL
ATOM	702	O	ASN	101	11.978	19.563	31.772	1.00	27.14	BLGL
ATOM	703	N	GLY	102	9.824	19.932	32.290	1.00	25.80	BLGL
ATOM	704	CA	GLY	102	9.345	19.598	30.962	1.00	24.78	BLGL
ATOM	705	C	GLY	102	9.671	18.215	30.447	1.00	25.83	BLGL
ATOM	706	O	GLY	102	10.048	18.061	29.289	1.00	27.54	BLGL
ATOM	707	N	MET	103	9.525	17.205	31.297	1.00	26.80	BLGL
ATOM	708	CA	MET	103	9.793	15.827	30.899	1.00	26.04	BLGL
ATOM	709	CB	MET	103	11.006	15.283	31.662	1.00	26.48	BLGL
ATOM	710	CG	MET	103	12.265	16.110	31.451	1.00	29.27	BLGL
ATOM	711	SD	MET	103	13.767	15.380	32.124	1.00	31.74	BLGL
ATOM	712	CE	MET	103	13.716	16.017	33.804	1.00	31.73	BLGL
ATOM	713	C	MET	103	8.559	14.978	31.191	1.00	25.31	BLGL
ATOM	714	O	MET	103	7.892	15.179	32.206	1.00	24.54	BLGL
ATOM	715	N	LYS	104	8.243	14.044	30.294	1.00	24.62	BLGL
ATOM	716	CA	LYS	104	7.082	13.174	30.484	1.00	24.42	BLGL
ATOM	717	CB	LYS	104	6.668	12.527	29.167	1.00	28.12	BLGL
ATOM	718	CG	LYS	104	6.265	13.483	28.062	1.00	32.81	BLGL
ATOM	719	CD	LYS	104	4.800	13.820	28.149	1.00	35.64	BLGL
ATOM	720	CE	LYS	104	4.294	14.402	26.843	1.00	37.37	BLGL
ATOM	721	NZ	LYS	104	2.807	14.485	26.870	1.00	40.79	BLGL
ATOM	722	C	LYS	104	7.452	12.075	31.466	1.00	22.98	BLGL
ATOM	723	O	LYS	104	8.632	11.840	31.720	1.00	23.51	BLGL
ATOM	724	N	LEU	105	6.450	11.398	32.014	1.00	21.49	BLGL
ATOM	725	CA	LEU	105	6.705	10.313	32.955	1.00	19.77	BLGL

Fig. 4 cont.

137/174

ATOM	726	CB	LEU	105	5.975	10.559	34.279	1.00	18.76	BLGL
ATOM	727	CG	LEU	105	6.334	9.548	35.381	1.00	19.18	BLGL
ATOM	728	CD1	LEU	105	7.586	10.007	36.100	1.00	16.56	BLGL
ATOM	729	CD2	LEU	105	5.195	9.412	36.364	1.00	21.13	BLGL
ATOM	730	C	LEU	105	6.280	8.941	32.418	1.00	19.86	BLGL
ATOM	731	O	LEU	105	5.285	8.812	31.701	1.00	16.96	BLGL
ATOM	732	N	LEU	106	7.059	7.920	32.758	1.00	19.88	BLGL
ATOM	733	CA	LEU	106	6.738	6.551	32.381	1.00	19.92	BLGL
ATOM	734	CB	LEU	106	7.889	5.878	31.637	1.00	17.61	BLGL
ATOM	735	CG	LEU	106	7.550	4.607	30.838	1.00	21.29	BLGL
ATOM	736	CD1	LEU	106	8.845	3.872	30.511	1.00	18.25	BLGL
ATOM	737	CD2	LEU	106	6.627	3.689	31.604	1.00	17.96	BLGL
ATOM	738	C	LEU	106	6.567	5.877	33.730	1.00	19.81	BLGL
ATOM	739	O	LEU	106	7.546	5.660	34.437	1.00	19.58	BLGL
ATOM	740	N	ALA	107	5.327	5.581	34.102	1.00	20.44	BLGL
ATOM	741	CA	ALA	107	5.052	4.922	35.373	1.00	20.99	BLGL
ATOM	742	CB	ALA	107	3.634	5.240	35.826	1.00	21.52	BLGL
ATOM	743	C	ALA	107	5.224	3.418	35.177	1.00	21.97	BLGL
ATOM	744	O	ALA	107	4.493	2.796	34.406	1.00	23.04	BLGL
ATOM	745	N	ASP	108	6.192	2.828	35.867	1.00	21.22	BLGL
ATOM	746	CA	ASP	108	6.438	1.400	35.726	1.00	20.00	BLGL
ATOM	747	CB	ASP	108	7.932	1.175	35.463	1.00	17.66	BLGL
ATOM	748	CG	ASP	108	8.327	-0.289	35.455	1.00	17.79	BLGL
ATOM	749	OD1	ASP	108	7.448	-1.173	35.519	1.00	16.92	BLGL
ATOM	750	OD2	ASP	108	9.542	-0.562	35.385	1.00	18.27	BLGL
ATOM	751	C	ASP	108	5.966	0.625	36.953	1.00	21.24	BLGL
ATOM	752	O	ASP	108	6.635	0.614	37.984	1.00	25.51	BLGL
ATOM	753	N	PHE	109	4.801	-0.010	36.840	1.00	19.98	BLGL
ATOM	754	CA	PHE	109	4.256	-0.792	37.939	1.00	20.05	BLGL
ATOM	755	CB	PHE	109	2.739	-0.903	37.850	1.00	20.06	BLGL
ATOM	756	CG	PHE	109	2.033	0.386	38.066	1.00	21.36	BLGL
ATOM	757	CD1	PHE	109	1.751	1.225	36.995	1.00	21.28	BLGL
ATOM	758	CD2	PHE	109	1.665	0.777	39.349	1.00	21.79	BLGL
ATOM	759	CE1	PHE	109	1.110	2.442	37.194	1.00	24.40	BLGL
ATOM	760	CE2	PHE	109	1.026	1.989	39.564	1.00	23.03	BLGL
ATOM	761	CZ	PHE	109	0.745	2.828	38.482	1.00	23.74	BLGL
ATOM	762	C	PHE	109	4.822	-2.190	37.949	1.00	19.77	BLGL
ATOM	763	O	PHE	109	4.680	-2.932	36.978	1.00	18.81	BLGL
ATOM	764	N	HIS	110	5.464	-2.547	39.054	1.00	19.76	BLGL
ATOM	765	CA	HIS	110	6.023	-3.875	39.188	1.00	20.72	BLGL
ATOM	766	CB	HIS	110	7.207	-3.876	40.157	1.00	20.31	BLGL
ATOM	767	CG	HIS	110	8.497	-3.439	39.540	1.00	20.23	BLGL
ATOM	768	CD2	HIS	110	8.779	-2.456	38.653	1.00	19.83	BLGL
ATOM	769	ND1	HIS	110	9.703	-4.034	39.845	1.00	21.63	BLGL
ATOM	770	CE1	HIS	110	10.671	-3.437	39.174	1.00	20.13	BLGL
ATOM	771	NE2	HIS	110	10.137	-2.475	38.442	1.00	20.13	BLGL
ATOM	772	C	HIS	110	4.948	-4.823	39.695	1.00	20.55	BLGL
ATOM	773	O	HIS	110	5.056	-6.036	39.536	1.00	20.58	BLGL
ATOM	774	N	TYR	111	3.900	-4.267	40.291	1.00	21.08	BLGL
ATOM	775	CA	TYR	111	2.827	-5.093	40.830	1.00	23.38	BLGL
ATOM	776	CB	TYR	111	2.039	-5.759	39.695	1.00	22.62	BLGL
ATOM	777	CG	TYR	111	1.274	-4.758	38.858	1.00	23.84	BLGL
ATOM	778	CD1	TYR	111	1.551	-4.593	37.501	1.00	22.76	BLGL
ATOM	779	CE1	TYR	111	0.878	-3.641	36.742	1.00	23.56	BLGL
ATOM	780	CD2	TYR	111	0.297	-3.945	39.437	1.00	24.23	BLGL
ATOM	781	CE2	TYR	111	-0.378	-2.991	38.688	1.00	23.70	BLGL
ATOM	782	CZ	TYR	111	-0.082	-2.844	37.344	1.00	23.27	BLGL
ATOM	783	OH	TYR	111	-0.738	-1.887	36.609	1.00	24.35	BLGL
ATOM	784	C	TYR	111	3.439	-6.137	41.754	1.00	22.90	BLGL
ATOM	785	O	TYR	111	3.094	-7.317	41.718	1.00	22.52	BLGL
ATOM	786	N	SER	112	4.372	-5.668	42.574	1.00	22.56	BLGL
ATOM	787	CA	SER	112	5.071	-6.493	43.544	1.00	22.63	BLGL
ATOM	788	CB	SER	112	6.249	-7.201	42.892	1.00	22.37	BLGL
ATOM	789	OG	SER	112	7.002	-7.894	43.866	1.00	23.73	BLGL
ATOM	790	C	SER	112	5.585	-5.542	44.601	1.00	23.27	BLGL
ATOM	791	O	SER	112	5.631	-4.333	44.368	1.00	24.65	BLGL

Fig. 4 cont.

138/174

ATOM	792	N	ASP	113	5.968	-6.069	45.760	1.00	22.31	BLGL
ATOM	793	CA	ASP	113	6.486	-5.208	46.815	1.00	22.28	BLGL
ATOM	794	CB	ASP	113	6.202	-5.795	48.199	1.00	22.82	BLGL
ATOM	795	CG	ASP	113	4.732	-5.719	48.577	1.00	25.54	BLGL
ATOM	796	OD1	ASP	113	4.032	-4.825	48.056	1.00	23.47	BLGL
ATOM	797	OD2	ASP	113	4.281	-6.544	49.406	1.00	24.91	BLGL
ATOM	798	C	ASP	113	7.982	-4.969	46.651	1.00	21.86	BLGL
ATOM	799	O	ASP	113	8.548	-4.101	47.309	1.00	21.62	BLGL
ATOM	800	N	PHE	114	8.622	-5.738	45.775	1.00	20.23	BLGL
ATOM	801	CA	PHE	114	10.046	-5.563	45.547	1.00	20.78	BLGL
ATOM	802	CB	PHE	114	10.853	-6.387	46.549	1.00	21.28	BLGL
ATOM	803	CG	PHE	114	12.221	-5.822	46.838	1.00	24.03	BLGL
ATOM	804	CD1	PHE	114	12.420	-4.441	46.919	1.00	24.35	BLGL
ATOM	805	CD2	PHE	114	13.308	-6.666	47.064	1.00	24.49	BLGL
ATOM	806	CE1	PHE	114	13.684	-3.909	47.224	1.00	22.80	BLGL
ATOM	807	CE2	PHE	114	14.575	-6.144	47.372	1.00	20.26	BLGL
ATOM	808	CZ	PHE	114	14.761	-4.767	47.451	1.00	20.45	BLGL
ATOM	809	C	PHE	114	10.392	-5.952	44.122	1.00	21.41	BLGL
ATOM	810	O	PHE	114	9.507	-6.328	43.361	1.00	21.59	BLGL
ATOM	811	N	TRP	115	11.675	-5.856	43.768	1.00	20.29	BLGL
ATOM	812	CA	TRP	115	12.152	-6.160	42.418	1.00	19.28	BLGL
ATOM	813	CB	TRP	115	13.634	-6.577	42.445	1.00	20.57	BLGL
ATOM	814	CG	TRP	115	14.575	-5.534	42.963	1.00	21.03	BLGL
ATOM	815	CD2	TRP	115	14.942	-4.315	42.311	1.00	20.71	BLGL
ATOM	816	CE2	TRP	115	15.786	-3.607	43.198	1.00	21.97	BLGL
ATOM	817	CE3	TRP	115	14.637	-3.747	41.066	1.00	20.82	BLGL
ATOM	818	CD1	TRP	115	15.202	-5.523	44.177	1.00	19.55	BLGL
ATOM	819	NE1	TRP	115	15.929	-4.371	44.328	1.00	18.99	BLGL
ATOM	820	CZ2	TRP	115	16.329	-2.350	42.878	1.00	22.16	BLGL
ATOM	821	CZ3	TRP	115	15.177	-2.499	40.746	1.00	21.59	BLGL
ATOM	822	CH2	TRP	115	16.013	-1.815	41.653	1.00	22.47	BLGL
ATOM	823	C	TRP	115	11.361	-7.231	41.665	1.00	18.82	BLGL
ATOM	824	O	TRP	115	11.090	-8.308	42.193	1.00	17.18	BLGL
ATOM	825	N	ALA	116	10.995	-6.925	40.426	1.00	17.42	BLGL
ATOM	826	CA	ALA	116	10.277	-7.874	39.589	1.00	19.55	BLGL
ATOM	827	CB	ALA	116	8.914	-7.326	39.223	1.00	18.74	BLGL
ATOM	828	C	ALA	116	11.110	-8.105	38.331	1.00	22.25	BLGL
ATOM	829	O	ALA	116	11.457	-7.157	37.631	1.00	25.39	BLGL
ATOM	830	N	ASP	117	11.450	-9.358	38.051	1.00	21.71	BLGL
ATOM	831	CA	ASP	117	12.243	-9.672	36.872	1.00	22.29	BLGL
ATOM	832	CB	ASP	117	13.736	-9.620	37.209	1.00	22.60	BLGL
ATOM	833	CG	ASP	117	14.124	-10.578	38.309	1.00	26.69	BLGL
ATOM	834	OD1	ASP	117	13.662	-11.738	38.294	1.00	29.56	BLGL
ATOM	835	OD2	ASP	117	14.907	-10.171	39.190	1.00	30.52	BLGL
ATOM	836	C	ASP	117	11.843	-11.045	36.346	1.00	22.91	BLGL
ATOM	837	O	ASP	117	10.840	-11.601	36.784	1.00	24.06	BLGL
ATOM	838	N	PRO	118	12.617	-11.619	35.409	1.00	22.06	BLGL
ATOM	839	CD	PRO	118	13.734	-11.056	34.639	1.00	20.93	BLGL
ATOM	840	CA	PRO	118	12.252	-12.935	34.880	1.00	24.27	BLGL
ATOM	841	CB	PRO	118	13.301	-13.176	33.802	1.00	22.87	BLGL
ATOM	842	CG	PRO	118	13.629	-11.821	33.353	1.00	24.48	BLGL
ATOM	843	C	PRO	118	12.202	-14.077	35.884	1.00	26.00	BLGL
ATOM	844	O	PRO	118	11.667	-15.140	35.580	1.00	29.05	BLGL
ATOM	845	N	ALA	119	12.755	-13.868	37.071	1.00	28.00	BLGL
ATOM	846	CA	ALA	119	12.762	-14.917	38.086	1.00	28.48	BLGL
ATOM	847	CB	ALA	119	14.186	-15.188	38.543	1.00	27.97	BLGL
ATOM	848	C	ALA	119	11.899	-14.568	39.283	1.00	28.36	BLGL
ATOM	849	O	ALA	119	11.407	-15.447	39.981	1.00	30.80	BLGL
ATOM	850	N	LYS	120	11.719	-13.279	39.524	1.00	29.14	BLGL
ATOM	851	CA	LYS	120	10.920	-12.842	40.654	1.00	29.76	BLGL
ATOM	852	CB	LYS	120	11.793	-12.032	41.617	1.00	31.32	BLGL
ATOM	853	CG	LYS	120	12.940	-12.838	42.213	1.00	38.25	BLGL
ATOM	854	CD	LYS	120	13.897	-12.000	43.074	1.00	40.66	BLGL
ATOM	855	CE	LYS	120	14.801	-11.115	42.222	1.00	44.93	BLGL
ATOM	856	NZ	LYS	120	15.827	-10.373	43.027	1.00	46.70	BLGL
ATOM	857	C	LYS	120	9.708	-12.020	40.224	1.00	28.61	BLGL

Fig. 4 cont.

139/174

ATOM	858	O	LYS	120	9.841	-10.912	39.702	1.00	28.45	BLGL
ATOM	859	N	GLN	121	8.525	-12.589	40.425	1.00	26.27	BLGL
ATOM	860	CA	GLN	121	7.273	-11.913	40.108	1.00	25.49	BLGL
ATOM	861	CB	GLN	121	6.673	-12.457	38.805	1.00	24.33	BLGL
ATOM	862	CG	GLN	121	7.392	-12.034	37.525	1.00	20.53	BLGL
ATOM	863	CD	GLN	121	7.376	-10.528	37.291	1.00	18.36	BLGL
ATOM	864	OE1	GLN	121	6.425	-9.838	37.659	1.00	15.80	BLGL
ATOM	865	NE2	GLN	121	8.424	-10.017	36.655	1.00	17.37	BLGL
ATOM	866	C	GLN	121	6.328	-12.176	41.281	1.00	25.36	BLGL
ATOM	867	O	GLN	121	5.176	-12.571	41.099	1.00	26.22	BLGL
ATOM	868	N	LYS	122	6.843	-11.970	42.489	1.00	25.47	BLGL
ATOM	869	CA	LYS	122	6.091	-12.188	43.716	1.00	25.96	BLGL
ATOM	870	CB	LYS	122	7.031	-12.079	44.924	1.00	27.22	BLGL
ATOM	871	CG	LYS	122	6.394	-12.412	46.260	1.00	29.39	BLGL
ATOM	872	CD	LYS	122	6.870	-13.759	46.785	1.00	32.32	BLGL
ATOM	873	CE	LYS	122	7.832	-13.609	47.961	1.00	31.56	BLGL
ATOM	874	NZ	LYS	122	7.187	-12.997	49.160	1.00	32.62	BLGL
ATOM	875	C	LYS	122	4.968	-11.162	43.833	1.00	26.53	BLGL
ATOM	876	O	LYS	122	5.151	-9.988	43.504	1.00	28.15	BLGL
ATOM	877	N	ALA	123	3.804	-11.603	44.298	1.00	25.34	BLGL
ATOM	878	CA	ALA	123	2.669	-10.700	44.449	1.00	24.78	BLGL
ATOM	879	CB	ALA	123	1.377	-11.491	44.559	1.00	24.09	BLGL
ATOM	880	C	ALA	123	2.830	-9.820	45.675	1.00	23.46	BLGL
ATOM	881	O	ALA	123	3.519	-10.177	46.622	1.00	23.28	BLGL
ATOM	882	N	PRO	124	2.212	-8.636	45.660	1.00	23.79	BLGL
ATOM	883	CD	PRO	124	1.484	-7.998	44.548	1.00	21.21	BLGL
ATOM	884	CA	PRO	124	2.310	-7.738	46.811	1.00	22.77	BLGL
ATOM	885	CB	PRO	124	1.392	-6.588	46.419	1.00	21.28	BLGL
ATOM	886	CG	PRO	124	1.521	-6.547	44.927	1.00	19.51	BLGL
ATOM	887	C	PRO	124	1.791	-8.491	48.037	1.00	23.09	BLGL
ATOM	888	O	PRO	124	0.883	-9.312	47.922	1.00	22.17	BLGL
ATOM	889	N	LYS	125	2.360	-8.228	49.205	1.00	25.24	BLGL
ATOM	890	CA	LYS	125	1.910	-8.916	50.411	1.00	25.84	BLGL
ATOM	891	CB	LYS	125	2.612	-8.350	51.656	1.00	23.65	BLGL
ATOM	892	CG	LYS	125	4.109	-8.642	51.733	1.00	21.46	BLGL
ATOM	893	CD	LYS	125	4.750	-8.067	52.990	1.00	15.25	BLGL
ATOM	894	CE	LYS	125	4.683	-6.554	53.029	1.00	20.47	BLGL
ATOM	895	NZ	LYS	125	5.440	-5.911	51.912	1.00	22.44	BLGL
ATOM	896	C	LYS	125	0.391	-8.807	50.570	1.00	27.21	BLGL
ATOM	897	O	LYS	125	-0.264	-9.763	50.976	1.00	27.46	BLGL
ATOM	898	N	ALA	126	-0.170	-7.651	50.232	1.00	27.45	BLGL
ATOM	899	CA	ALA	126	-1.608	-7.438	50.360	1.00	28.44	BLGL
ATOM	900	CB	ALA	126	-1.942	-5.996	50.042	1.00	27.50	BLGL
ATOM	901	C	ALA	126	-2.445	-8.367	49.487	1.00	30.46	BLGL
ATOM	902	O	ALA	126	-3.578	-8.700	49.835	1.00	32.72	BLGL
ATOM	903	N	TRP	127	-1.893	-8.780	48.352	1.00	31.67	BLGL
ATOM	904	CA	TRP	127	-2.608	-9.663	47.436	1.00	32.34	BLGL
ATOM	905	CB	TRP	127	-2.274	-9.301	45.983	1.00	29.98	BLGL
ATOM	906	CG	TRP	127	-2.525	-7.864	45.623	1.00	26.78	BLGL
ATOM	907	CD2	TRP	127	-2.176	-7.215	44.392	1.00	25.87	BLGL
ATOM	908	CE2	TRP	127	-2.582	-5.869	44.499	1.00	24.64	BLGL
ATOM	909	CE3	TRP	127	-1.558	-7.643	43.207	1.00	25.70	BLGL
ATOM	910	CD1	TRP	127	-3.116	-6.913	46.400	1.00	25.22	BLGL
ATOM	911	NE1	TRP	127	-3.153	-5.712	45.735	1.00	25.00	BLGL
ATOM	912	CZ2	TRP	127	-2.390	-4.942	43.469	1.00	23.42	BLGL
ATOM	913	CZ3	TRP	127	-1.367	-6.723	42.183	1.00	24.22	BLGL
ATOM	914	CH2	TRP	127	-1.781	-5.387	42.323	1.00	24.78	BLGL
ATOM	915	C	TRP	127	-2.220	-11.113	47.694	1.00	34.48	BLGL
ATOM	916	O	TRP	127	-2.786	-12.039	47.101	1.00	34.45	BLGL
ATOM	917	N	ALA	128	-1.244	-11.284	48.585	1.00	37.15	BLGL
ATOM	918	CA	ALA	128	-0.704	-12.589	48.971	1.00	38.47	BLGL
ATOM	919	CB	ALA	128	-0.198	-12.528	50.396	1.00	40.00	BLGL
ATOM	920	C	ALA	128	-1.663	-13.759	48.817	1.00	39.10	BLGL
ATOM	921	O	ALA	128	-1.406	-14.671	48.032	1.00	38.72	BLGL
ATOM	922	N	ASN	129	-2.754	-13.751	49.574	1.00	40.50	BLGL
ATOM	923	CA	ASN	129	-3.716	-14.836	49.473	1.00	44.45	BLGL

Fig. 4 cont.

140/174

ATOM	924	CB	ASN	129	-3.794	-15.632	50.788	1.00	47.42	BLGL
ATOM	925	CG	ASN	129	-3.746	-14.751	52.018	1.00	50.55	BLGL
ATOM	926	OD1	ASN	129	-3.975	-13.545	51.941	1.00	54.24	BLGL
ATOM	927	ND2	ASN	129	-3.460	-15.356	53.168	1.00	50.85	BLGL
ATOM	928	C	ASN	129	-5.107	-14.380	49.047	1.00	44.76	BLGL
ATOM	929	O	ASN	129	-6.070	-14.460	49.813	1.00	45.16	BLGL
ATOM	930	N	LEU	130	-5.194	-13.901	47.810	1.00	44.30	BLGL
ATOM	931	CA	LEU	130	-6.452	-13.456	47.230	1.00	43.76	BLGL
ATOM	932	CB	LEU	130	-6.341	-12.018	46.731	1.00	44.19	BLGL
ATOM	933	CG	LEU	130	-6.396	-10.901	47.767	1.00	44.74	BLGL
ATOM	934	CD1	LEU	130	-6.258	-9.564	47.071	1.00	45.24	BLGL
ATOM	935	CD2	LEU	130	-7.712	-10.970	48.515	1.00	45.37	BLGL
ATOM	936	C	LEU	130	-6.727	-14.363	46.049	1.00	43.61	BLGL
ATOM	937	O	LEU	130	-5.801	-14.769	45.351	1.00	43.36	BLGL
ATOM	938	N	ASN	131	-7.991	-14.695	45.823	1.00	44.12	BLGL
ATOM	939	CA	ASN	131	-8.318	-15.549	44.690	1.00	44.97	BLGL
ATOM	940	CB	ASN	131	-9.757	-16.078	44.801	1.00	47.76	BLGL
ATOM	941	CG	ASN	131	-10.794	-14.976	44.772	1.00	51.05	BLGL
ATOM	942	OD1	ASN	131	-10.669	-13.968	45.465	1.00	55.52	BLGL
ATOM	943	ND2	ASN	131	-11.835	-15.170	43.977	1.00	52.37	BLGL
ATOM	944	C	ASN	131	-8.133	-14.706	43.436	1.00	43.17	BLGL
ATOM	945	O	ASN	131	-8.381	-13.502	43.451	1.00	42.05	BLGL
ATOM	946	N	PHE	132	-7.682	-15.338	42.360	1.00	42.47	BLGL
ATOM	947	CA	PHE	132	-7.440	-14.638	41.107	1.00	42.04	BLGL
ATOM	948	CB	PHE	132	-7.430	-15.619	39.940	1.00	42.05	BLGL
ATOM	949	CG	PHE	132	-7.126	-14.971	38.633	1.00	42.75	BLGL
ATOM	950	CD1	PHE	132	-5.870	-14.426	38.396	1.00	42.49	BLGL
ATOM	951	CD2	PHE	132	-8.103	-14.855	37.656	1.00	43.76	BLGL
ATOM	952	CE1	PHE	132	-5.594	-13.769	37.204	1.00	42.79	BLGL
ATOM	953	CE2	PHE	132	-7.834	-14.197	36.455	1.00	44.60	BLGL
ATOM	954	CZ	PHE	132	-6.579	-13.655	36.232	1.00	43.31	BLGL
ATOM	955	C	PHE	132	-8.439	-13.523	40.808	1.00	41.68	BLGL
ATOM	956	O	PHE	132	-8.050	-12.415	40.445	1.00	41.50	BLGL
ATOM	957	N	GLU	133	-9.725	-13.815	40.951	1.00	42.52	BLGL
ATOM	958	CA	GLU	133	-10.759	-12.821	40.691	1.00	42.35	BLGL
ATOM	959	CB	GLU	133	-12.138	-13.409	40.985	1.00	46.23	BLGL
ATOM	960	CG	GLU	133	-12.591	-14.433	39.967	1.00	53.21	BLGL
ATOM	961	CD	GLU	133	-12.550	-13.879	38.553	1.00	57.33	BLGL
ATOM	962	OE1	GLU	133	-13.059	-12.757	38.347	1.00	58.31	BLGL
ATOM	963	OE2	GLU	133	-12.015	-14.564	37.652	1.00	61.34	BLGL
ATOM	964	C	GLU	133	-10.573	-11.542	41.500	1.00	40.12	BLGL
ATOM	965	O	GLU	133	-10.654	-10.443	40.951	1.00	38.25	BLGL
ATOM	966	N	ASP	134	-10.326	-11.691	42.800	1.00	38.18	BLGL
ATOM	967	CA	ASP	134	-10.133	-10.547	43.684	1.00	37.03	BLGL
ATOM	968	CB	ASP	134	-10.203	-10.994	45.142	1.00	39.68	BLGL
ATOM	969	CG	ASP	134	-11.625	-11.128	45.640	1.00	40.58	BLGL
ATOM	970	OD1	ASP	134	-11.816	-11.683	46.744	1.00	40.76	BLGL
ATOM	971	OD2	ASP	134	-12.546	-10.666	44.930	1.00	42.41	BLGL
ATOM	972	C	ASP	134	-8.816	-9.822	43.434	1.00	34.44	BLGL
ATOM	973	O	ASP	134	-8.710	-8.611	43.633	1.00	33.65	BLGL
ATOM	974	N	LYS	135	-7.810	-10.570	43.003	1.00	32.43	BLGL
ATOM	975	CA	LYS	135	-6.510	-9.989	42.717	1.00	30.17	BLGL
ATOM	976	CB	LYS	135	-5.468	-11.092	42.537	1.00	28.01	BLGL
ATOM	977	CG	LYS	135	-4.058	-10.568	42.377	1.00	25.79	BLGL
ATOM	978	CD	LYS	135	-3.090	-11.647	41.928	1.00	24.80	BLGL
ATOM	979	CE	LYS	135	-2.994	-12.773	42.922	1.00	24.10	BLGL
ATOM	980	NZ	LYS	135	-1.961	-13.742	42.491	1.00	24.21	BLGL
ATOM	981	C	LYS	135	-6.615	-9.147	41.443	1.00	29.06	BLGL
ATOM	982	O	LYS	135	-6.092	-8.032	41.384	1.00	29.12	BLGL
ATOM	983	N	LYS	136	-7.303	-9.682	40.436	1.00	28.19	BLGL
ATOM	984	CA	LYS	136	-7.492	-8.986	39.166	1.00	26.63	BLGL
ATOM	985	CB	LYS	136	-8.364	-9.819	38.220	1.00	28.55	BLGL
ATOM	986	CG	LYS	136	-8.455	-9.248	36.811	1.00	33.70	BLGL
ATOM	987	CD	LYS	136	-9.739	-9.661	36.093	1.00	40.26	BLGL
ATOM	988	CE	LYS	136	-9.825	-11.171	35.873	1.00	44.05	BLGL
ATOM	989	NZ	LYS	136	-11.113	-11.590	35.228	1.00	44.46	BLGL

Fig. 4 cont.

141/174

ATOM	990	C	LYS	136	-8.149	-7.627	39.408	1.00	24.62	BLGL
ATOM	991	O	LYS	136	-7.714	-6.611	38.868	1.00	24.91	BLGL
ATOM	992	N	THR	137	-9.197	-7.607	40.221	1.00	23.73	BLGL
ATOM	993	CA	THR	137	-9.874	-6.356	40.519	1.00	24.53	BLGL
ATOM	994	CB	THR	137	-11.262	-6.603	41.168	1.00	26.21	BLGL
ATOM	995	OG1	THR	137	-11.679	-5.422	41.855	1.00	28.27	BLGL
ATOM	996	CG2	THR	137	-11.220	-7.759	42.134	1.00	27.71	BLGL
ATOM	997	C	THR	137	-9.017	-5.451	41.412	1.00	24.00	BLGL
ATOM	998	O	THR	137	-9.108	-4.221	41.334	1.00	23.13	BLGL
ATOM	999	N	ALA	138	-8.174	-6.054	42.248	1.00	22.08	BLGL
ATOM	1000	CA	ALA	138	-7.289	-5.277	43.115	1.00	23.30	BLGL
ATOM	1001	CB	ALA	138	-6.612	-6.182	44.128	1.00	19.73	BLGL
ATOM	1002	C	ALA	138	-6.228	-4.570	42.265	1.00	23.73	BLGL
ATOM	1003	O	ALA	138	-5.896	-3.401	42.497	1.00	23.84	BLGL
ATOM	1004	N	LEU	139	-5.700	-5.288	41.280	1.00	21.33	BLGL
ATOM	1005	CA	LEU	139	-4.690	-4.729	40.402	1.00	22.61	BLGL
ATOM	1006	CB	LEU	139	-4.144	-5.806	39.460	1.00	21.44	BLGL
ATOM	1007	CG	LEU	139	-2.895	-5.411	38.656	1.00	21.68	BLGL
ATOM	1008	CD1	LEU	139	-2.111	-6.664	38.340	1.00	22.58	BLGL
ATOM	1009	CD2	LEU	139	-3.265	-4.658	37.383	1.00	17.55	BLGL
ATOM	1010	C	LEU	139	-5.280	-3.576	39.603	1.00	23.36	BLGL
ATOM	1011	O	LEU	139	-4.629	-2.550	39.401	1.00	23.02	BLGL
ATOM	1012	N	TYR	140	-6.513	-3.747	39.141	1.00	24.62	BLGL
ATOM	1013	CA	TYR	140	-7.176	-2.697	38.381	1.00	25.60	BLGL
ATOM	1014	CB	TYR	140	-8.514	-3.206	37.833	1.00	23.98	BLGL
ATOM	1015	CG	TYR	140	-9.494	-2.109	37.498	1.00	22.17	BLGL
ATOM	1016	CD1	TYR	140	-10.389	-1.634	38.452	1.00	25.15	BLGL
ATOM	1017	CE1	TYR	140	-11.259	-0.580	38.167	1.00	25.77	BLGL
ATOM	1018	CD2	TYR	140	-9.492	-1.508	36.247	1.00	22.26	BLGL
ATOM	1019	CE2	TYR	140	-10.353	-0.457	35.950	1.00	24.44	BLGL
ATOM	1020	CZ	TYR	140	-11.235	0.003	36.911	1.00	25.75	BLGL
ATOM	1021	OH	TYR	140	-12.096	1.036	36.615	1.00	25.22	BLGL
ATOM	1022	C	TYR	140	-7.393	-1.468	39.272	1.00	27.76	BLGL
ATOM	1023	O	TYR	140	-7.167	-0.335	38.845	1.00	26.59	BLGL
ATOM	1024	N	GLN	141	-7.828	-1.698	40.508	1.00	29.36	BLGL
ATOM	1025	CA	GLN	141	-8.061	-0.605	41.446	1.00	31.47	BLGL
ATOM	1026	CB	GLN	141	-8.645	-1.134	42.758	1.00	34.45	BLGL
ATOM	1027	CG	GLN	141	-10.105	-1.525	42.664	1.00	44.36	BLGL
ATOM	1028	CD	GLN	141	-11.015	-0.331	42.408	1.00	49.85	BLGL
ATOM	1029	OE1	GLN	141	-12.161	-0.487	41.957	1.00	52.06	BLGL
ATOM	1030	NE2	GLN	141	-10.515	0.870	42.707	1.00	49.83	BLGL
ATOM	1031	C	GLN	141	-6.782	0.154	41.751	1.00	29.93	BLGL
ATOM	1032	O	GLN	141	-6.751	1.387	41.698	1.00	28.20	BLGL
ATOM	1033	N	TYR	142	-5.730	-0.593	42.079	1.00	27.46	BLGL
ATOM	1034	CA	TYR	142	-4.445	-0.002	42.413	1.00	25.44	BLGL
ATOM	1035	CB	TYR	142	-3.426	-1.105	42.694	1.00	26.98	BLGL
ATOM	1036	CG	TYR	142	-2.025	-0.585	42.928	1.00	26.89	BLGL
ATOM	1037	CD1	TYR	142	-1.752	0.281	43.979	1.00	25.19	BLGL
ATOM	1038	CE1	TYR	142	-0.473	0.768	44.189	1.00	28.95	BLGL
ATOM	1039	CD2	TYR	142	-0.979	-0.950	42.088	1.00	27.59	BLGL
ATOM	1040	CE2	TYR	142	0.305	-0.468	42.287	1.00	29.43	BLGL
ATOM	1041	CZ	TYR	142	0.553	0.390	43.341	1.00	30.68	BLGL
ATOM	1042	OH	TYR	142	1.829	0.862	43.554	1.00	32.86	BLGL
ATOM	1043	C	TYR	142	-3.922	0.912	41.311	1.00	24.17	BLGL
ATOM	1044	O	TYR	142	-3.466	2.026	41.572	1.00	22.37	BLGL
ATOM	1045	N	THR	143	-3.988	0.432	40.076	1.00	23.95	BLGL
ATOM	1046	CA	THR	143	-3.518	1.205	38.941	1.00	24.20	BLGL
ATOM	1047	CB	THR	143	-3.626	0.397	37.649	1.00	22.46	BLGL
ATOM	1048	OG1	THR	143	-3.000	-0.875	37.838	1.00	19.33	BLGL
ATOM	1049	CG2	THR	143	-2.948	1.129	36.508	1.00	20.23	BLGL
ATOM	1050	C	THR	143	-4.361	2.459	38.803	1.00	25.95	BLGL
ATOM	1051	O	THR	143	-3.836	3.568	38.689	1.00	27.54	BLGL
ATOM	1052	N	LYS	144	-5.673	2.263	38.821	1.00	27.01	BLGL
ATOM	1053	CA	LYS	144	-6.636	3.346	38.690	1.00	28.79	BLGL
ATOM	1054	CB	LYS	144	-8.053	2.779	38.818	1.00	30.43	BLGL
ATOM	1055	CG	LYS	144	-9.167	3.787	38.626	1.00	32.32	BLGL

Fig. 4 cont.

142/174

ATOM	1056	CD	LYS	144	-9.391	4.123	37.167	1.00	35.17	BLGL
ATOM	1057	CE	LYS	144	-10.603	5.033	37.010	1.00	36.95	BLGL
ATOM	1058	NZ	LYS	144	-11.835	4.435	37.605	1.00	37.88	BLGL
ATOM	1059	C	LYS	144	-6.401	4.421	39.748	1.00	28.67	BLGL
ATOM	1060	O	LYS	144	-6.322	5.606	39.433	1.00	29.09	BLGL
ATOM	1061	N	GLN	145	-6.287	4.010	41.004	1.00	28.65	BLGL
ATOM	1062	CA	GLN	145	-6.062	4.969	42.075	1.00	31.28	BLGL
ATOM	1063	CB	GLN	145	-6.116	4.281	43.440	1.00	35.75	BLGL
ATOM	1064	CG	GLN	145	-7.463	3.632	43.756	1.00	45.00	BLGL
ATOM	1065	CD	GLN	145	-8.638	4.586	43.565	1.00	50.27	BLGL
ATOM	1066	OE1	GLN	145	-8.697	5.651	44.189	1.00	53.13	BLGL
ATOM	1067	NE2	GLN	145	-9.580	4.206	42.699	1.00	51.05	BLGL
ATOM	1068	C	GLN	145	-4.720	5.666	41.905	1.00	30.73	BLGL
ATOM	1069	O	GLN	145	-4.653	6.895	41.883	1.00	31.69	BLGL
ATOM	1070	N	SER	146	-3.655	4.880	41.778	1.00	28.68	BLGL
ATOM	1071	CA	SER	146	-2.315	5.429	41.614	1.00	27.00	BLGL
ATOM	1072	CB	SER	146	-1.326	4.319	41.276	1.00	26.10	BLGL
ATOM	1073	OG	SER	146	-1.175	3.432	42.363	1.00	25.05	BLGL
ATOM	1074	C	SER	146	-2.258	6.485	40.529	1.00	26.20	BLGL
ATOM	1075	O	SER	146	-1.733	7.576	40.739	1.00	24.18	BLGL
ATOM	1076	N	LEU	147	-2.793	6.148	39.363	1.00	26.95	BLGL
ATOM	1077	CA	LEU	147	-2.798	7.069	38.240	1.00	28.50	BLGL
ATOM	1078	CB	LEU	147	-3.399	6.386	37.004	1.00	29.76	BLGL
ATOM	1079	CG	LEU	147	-2.403	5.891	35.949	1.00	29.50	BLGL
ATOM	1080	CD1	LEU	147	-1.214	5.237	36.616	1.00	31.84	BLGL
ATOM	1081	CD2	LEU	147	-3.098	4.918	35.010	1.00	31.26	BLGL
ATOM	1082	C	LEU	147	-3.554	8.352	38.563	1.00	28.49	BLGL
ATOM	1083	O	LEU	147	-3.059	9.448	38.291	1.00	26.93	BLGL
ATOM	1084	N	LYS	148	-4.740	8.227	39.156	1.00	29.43	BLGL
ATOM	1085	CA	LYS	148	-5.520	9.412	39.485	1.00	32.08	BLGL
ATOM	1086	CB	LYS	148	-6.897	9.041	40.039	1.00	35.85	BLGL
ATOM	1087	CG	LYS	148	-7.879	10.208	39.955	1.00	44.89	BLGL
ATOM	1088	CD	LYS	148	-9.276	9.854	40.430	1.00	48.80	BLGL
ATOM	1089	CE	LYS	148	-9.319	9.641	41.939	1.00	53.72	BLGL
ATOM	1090	NZ	LYS	148	-8.537	8.451	42.388	1.00	55.41	BLGL
ATOM	1091	C	LYS	148	-4.772	10.277	40.488	1.00	30.09	BLGL
ATOM	1092	O	LYS	148	-4.833	11.502	40.419	1.00	30.55	BLGL
ATOM	1093	N	ALA	149	-4.063	9.636	41.412	1.00	27.72	BLGL
ATOM	1094	CA	ALA	149	-3.279	10.352	42.411	1.00	27.90	BLGL
ATOM	1095	CB	ALA	149	-2.623	9.367	43.368	1.00	26.54	BLGL
ATOM	1096	C	ALA	149	-2.208	11.196	41.720	1.00	28.02	BLGL
ATOM	1097	O	ALA	149	-1.981	12.357	42.075	1.00	27.39	BLGL
ATOM	1098	N	MET	150	-1.547	10.607	40.729	1.00	27.66	BLGL
ATOM	1099	CA	MET	150	-0.511	11.319	39.996	1.00	28.87	BLGL
ATOM	1100	CB	MET	150	0.228	10.357	39.063	1.00	28.84	BLGL
ATOM	1101	CG	MET	150	1.084	9.358	39.828	1.00	31.73	BLGL
ATOM	1102	SD	MET	150	2.122	8.307	38.803	1.00	34.53	BLGL
ATOM	1103	CE	MET	150	1.218	6.808	38.827	1.00	36.46	BLGL
ATOM	1104	C	MET	150	-1.101	12.491	39.219	1.00	28.60	BLGL
ATOM	1105	O	MET	150	-0.518	13.575	39.167	1.00	25.71	BLGL
ATOM	1106	N	LYS	151	-2.269	12.274	38.626	1.00	30.33	BLGL
ATOM	1107	CA	LYS	151	-2.939	13.327	37.871	1.00	31.72	BLGL
ATOM	1108	CB	LYS	151	-4.229	12.793	37.254	1.00	32.47	BLGL
ATOM	1109	CG	LYS	151	-4.036	12.005	35.980	1.00	35.00	BLGL
ATOM	1110	CD	LYS	151	-3.833	12.927	34.789	1.00	38.64	BLGL
ATOM	1111	CE	LYS	151	-3.939	12.159	33.477	1.00	40.97	BLGL
ATOM	1112	NZ	LYS	151	-3.816	13.050	32.295	1.00	40.80	BLGL
ATOM	1113	C	LYS	151	-3.261	14.501	38.787	1.00	31.68	BLGL
ATOM	1114	O	LYS	151	-3.008	15.655	38.442	1.00	32.97	BLGL
ATOM	1115	N	ALA	152	-3.823	14.199	39.953	1.00	31.23	BLGL
ATOM	1116	CA	ALA	152	-4.176	15.228	40.921	1.00	30.30	BLGL
ATOM	1117	CB	ALA	152	-4.759	14.590	42.185	1.00	29.61	BLGL
ATOM	1118	C	ALA	152	-2.952	16.057	41.273	1.00	29.37	BLGL
ATOM	1119	O	ALA	152	-3.066	17.247	41.544	1.00	30.53	BLGL
ATOM	1120	N	ALA	153	-1.783	15.425	41.272	1.00	29.04	BLGL
ATOM	1121	CA	ALA	153	-0.543	16.124	41.596	1.00	29.10	BLGL

Fig. 4 cont.

143/174

ATOM	1122	CB	ALA	153	0.517	15.134	42.032	1.00	30.13	BLGL
ATOM	1123	C	ALA	153	-0.056	16.910	40.391	1.00	29.10	BLGL
ATOM	1124	O	ALA	153	0.990	17.561	40.435	1.00	29.45	BLGL
ATOM	1125	N	GLY	154	-0.824	16.835	39.310	1.00	28.65	BLGL
ATOM	1126	CA	GLY	154	-0.482	17.557	38.101	1.00	26.76	BLGL
ATOM	1127	C	GLY	154	0.711	17.017	37.340	1.00	26.93	BLGL
ATOM	1128	O	GLY	154	1.406	17.770	36.661	1.00	25.28	BLGL
ATOM	1129	N	ILE	155	0.948	15.713	37.444	1.00	27.10	BLGL
ATOM	1130	CA	ILE	155	2.064	15.080	36.745	1.00	25.61	BLGL
ATOM	1131	CB	ILE	155	2.532	13.809	37.496	1.00	24.73	BLGL
ATOM	1132	CG2	ILE	155	3.661	13.118	36.724	1.00	23.73	BLGL
ATOM	1133	CG1	ILE	155	2.985	14.196	38.907	1.00	22.31	BLGL
ATOM	1134	CD1	ILE	155	3.188	13.018	39.842	1.00	21.74	BLGL
ATOM	1135	C	ILE	155	1.672	14.723	35.306	1.00	24.09	BLGL
ATOM	1136	O	ILE	155	0.568	14.240	35.056	1.00	25.01	BLGL
ATOM	1137	N	ASP	156	2.581	14.975	34.369	1.00	21.70	BLGL
ATOM	1138	CA	ASP	156	2.354	14.695	32.959	1.00	23.92	BLGL
ATOM	1139	CB	ASP	156	3.172	15.657	32.089	1.00	26.46	BLGL
ATOM	1140	CG	ASP	156	2.889	15.486	30.602	1.00	30.77	BLGL
ATOM	1141	OD1	ASP	156	3.579	16.140	29.792	1.00	33.81	BLGL
ATOM	1142	OD2	ASP	156	1.976	14.706	30.239	1.00	32.30	BLGL
ATOM	1143	C	ASP	156	2.757	13.261	32.644	1.00	23.58	BLGL
ATOM	1144	O	ASP	156	3.904	12.986	32.319	1.00	26.10	BLGL
ATOM	1145	N	ILE	157	1.805	12.348	32.750	1.00	22.55	BLGL
ATOM	1146	CA	ILE	157	2.062	10.945	32.484	1.00	21.98	BLGL
ATOM	1147	CB	ILE	157	1.070	10.058	33.254	1.00	22.84	BLGL
ATOM	1148	CG2	ILE	157	1.368	8.595	32.990	1.00	18.93	BLGL
ATOM	1149	CG1	ILE	157	1.137	10.385	34.744	1.00	23.81	BLGL
ATOM	1150	CD1	ILE	157	-0.082	9.922	35.514	1.00	26.52	BLGL
ATOM	1151	C	ILE	157	1.894	10.675	30.997	1.00	20.48	BLGL
ATOM	1152	O	ILE	157	0.819	10.885	30.443	1.00	22.51	BLGL
ATOM	1153	N	GLY	158	2.950	10.207	30.349	1.00	18.57	BLGL
ATOM	1154	CA	GLY	158	2.847	9.927	28.935	1.00	16.55	BLGL
ATOM	1155	C	GLY	158	2.758	8.445	28.632	1.00	17.26	BLGL
ATOM	1156	O	GLY	158	2.227	8.042	27.599	1.00	17.93	BLGL
ATOM	1157	N	MET	159	3.245	7.622	29.550	1.00	18.71	BLGL
ATOM	1158	CA	MET	159	3.260	6.186	29.322	1.00	19.00	BLGL
ATOM	1159	CB	MET	159	4.559	5.834	28.588	1.00	17.91	BLGL
ATOM	1160	CG	MET	159	4.563	4.506	27.872	1.00	24.08	BLGL
ATOM	1161	SD	MET	159	6.139	4.187	27.000	1.00	30.17	BLGL
ATOM	1162	CE	MET	159	6.095	5.442	25.740	1.00	26.74	BLGL
ATOM	1163	C	MET	159	3.156	5.395	30.630	1.00	19.17	BLGL
ATOM	1164	O	MET	159	3.573	5.855	31.696	1.00	16.99	BLGL
ATOM	1165	N	VAL	160	2.579	4.204	30.543	1.00	18.21	BLGL
ATOM	1166	CA	VAL	160	2.450	3.345	31.707	1.00	17.42	BLGL
ATOM	1167	CB	VAL	160	1.002	3.285	32.245	1.00	17.75	BLGL
ATOM	1168	CG1	VAL	160	0.920	2.287	33.384	1.00	16.21	BLGL
ATOM	1169	CG2	VAL	160	0.570	4.654	32.739	1.00	18.60	BLGL
ATOM	1170	C	VAL	160	2.891	1.944	31.332	1.00	17.12	BLGL
ATOM	1171	O	VAL	160	2.516	1.406	30.292	1.00	17.78	BLGL
ATOM	1172	N	GLN	161	3.704	1.360	32.192	1.00	17.31	BLGL
ATOM	1173	CA	GLN	161	4.211	0.028	31.963	1.00	17.58	BLGL
ATOM	1174	CB	GLN	161	5.709	0.018	32.272	1.00	17.55	BLGL
ATOM	1175	CG	GLN	161	6.446	-1.213	31.826	1.00	16.31	BLGL
ATOM	1176	CD	GLN	161	7.935	-1.106	32.056	1.00	16.53	BLGL
ATOM	1177	OE1	GLN	161	8.570	-0.132	31.641	1.00	17.05	BLGL
ATOM	1178	NE2	GLN	161	8.508	-2.114	32.707	1.00	12.70	BLGL
ATOM	1179	C	GLN	161	3.439	-0.903	32.893	1.00	16.74	BLGL
ATOM	1180	O	GLN	161	3.455	-0.719	34.106	1.00	17.03	BLGL
ATOM	1181	N	VAL	162	2.736	-1.882	32.330	1.00	14.93	BLGL
ATOM	1182	CA	VAL	162	1.975	-2.818	33.153	1.00	14.33	BLGL
ATOM	1183	CB	VAL	162	0.648	-3.209	32.455	1.00	14.98	BLGL
ATOM	1184	CG1	VAL	162	-0.143	-4.195	33.304	1.00	12.90	BLGL
ATOM	1185	CG2	VAL	162	-0.176	-1.964	32.213	1.00	12.73	BLGL
ATOM	1186	C	VAL	162	2.840	-4.051	33.411	1.00	15.01	BLGL
ATOM	1187	O	VAL	162	2.763	-5.046	32.691	1.00	15.57	BLGL

Fig. 4 cont.

144/174

ATOM	1188	N	GLY	163	3.674	-3.965	34.444	1.00	13.93	BLGL
ATOM	1189	CA	GLY	163	4.568	-5.062	34.765	1.00	16.33	BLGL
ATOM	1190	C	GLY	163	6.001	-4.755	34.350	1.00	17.03	BLGL
ATOM	1191	O	GLY	163	6.239	-3.875	33.521	1.00	17.31	BLGL
ATOM	1192	N	ASN	164	6.958	-5.485	34.917	1.00	17.42	BLGL
ATOM	1193	CA	ASN	164	8.374	-5.274	34.628	1.00	16.23	BLGL
ATOM	1194	CB	ASN	164	9.035	-4.629	35.845	1.00	13.47	BLGL
ATOM	1195	CG	ASN	164	10.413	-4.117	35.556	1.00	11.45	BLGL
ATOM	1196	OD1	ASN	164	10.581	-3.019	35.026	1.00	13.59	BLGL
ATOM	1197	ND2	ASN	164	11.416	-4.912	35.889	1.00	11.01	BLGL
ATOM	1198	C	ASN	164	9.051	-6.614	34.315	1.00	17.48	BLGL
ATOM	1199	O	ASN	164	9.131	-7.490	35.175	1.00	19.59	BLGL
ATOM	1200	N	GLU	165	9.537	-6.765	33.085	1.00	17.58	BLGL
ATOM	1201	CA	GLU	165	10.197	-7.998	32.643	1.00	17.54	BLGL
ATOM	1202	CB	GLU	165	11.605	-8.093	33.244	1.00	16.33	BLGL
ATOM	1203	CG	GLU	165	12.467	-6.875	32.940	1.00	17.40	BLGL
ATOM	1204	CD	GLU	165	13.938	-7.095	33.223	1.00	17.97	BLGL
ATOM	1205	OE1	GLU	165	14.260	-7.739	34.236	1.00	20.07	BLGL
ATOM	1206	OE2	GLU	165	14.783	-6.613	32.442	1.00	15.79	BLGL
ATOM	1207	C	GLU	165	9.372	-9.248	32.982	1.00	16.57	BLGL
ATOM	1208	O	GLU	165	9.875	-10.221	33.534	1.00	14.22	BLGL
ATOM	1209	N	THR	166	8.094	-9.196	32.618	1.00	16.92	BLGL
ATOM	1210	CA	THR	166	7.146	-10.267	32.860	1.00	15.12	BLGL
ATOM	1211	CB	THR	166	5.723	-9.713	32.782	1.00	17.38	BLGL
ATOM	1212	OG1	THR	166	5.514	-9.130	31.490	1.00	16.95	BLGL
ATOM	1213	CG2	THR	166	5.511	-8.629	33.850	1.00	17.63	BLGL
ATOM	1214	C	THR	166	7.304	-11.411	31.860	1.00	15.92	BLGL
ATOM	1215	O	THR	166	6.380	-11.741	31.131	1.00	13.18	BLGL
ATOM	1216	N	ASN	167	8.488	-12.013	31.835	1.00	18.90	BLGL
ATOM	1217	CA	ASN	167	8.775	-13.122	30.933	1.00	19.84	BLGL
ATOM	1218	CB	ASN	167	10.277	-13.399	30.885	1.00	19.56	BLGL
ATOM	1219	CG	ASN	167	11.014	-12.455	29.974	1.00	19.68	BLGL
ATOM	1220	OD1	ASN	167	10.597	-11.320	29.774	1.00	21.70	BLGL
ATOM	1221	ND2	ASN	167	12.132	-12.912	29.429	1.00	19.90	BLGL
ATOM	1222	C	ASN	167	8.074	-14.397	31.343	1.00	20.80	BLGL
ATOM	1223	O	ASN	167	7.670	-15.175	30.489	1.00	22.87	BLGL
ATOM	1224	N	GLY	168	7.936	-14.615	32.647	1.00	22.03	BLGL
ATOM	1225	CA	GLY	168	7.302	-15.833	33.114	1.00	24.61	BLGL
ATOM	1226	C	GLY	168	6.216	-15.699	34.164	1.00	26.99	BLGL
ATOM	1227	O	GLY	168	5.663	-16.702	34.620	1.00	28.98	BLGL
ATOM	1228	N	GLY	169	5.898	-14.478	34.562	1.00	26.63	BLGL
ATOM	1229	CA	GLY	169	4.865	-14.319	35.558	1.00	25.86	BLGL
ATOM	1230	C	GLY	169	4.516	-12.878	35.831	1.00	27.02	BLGL
ATOM	1231	O	GLY	169	5.166	-11.959	35.334	1.00	28.44	BLGL
ATOM	1232	N	LEU	170	3.467	-12.691	36.622	1.00	26.37	BLGL
ATOM	1233	CA	LEU	170	2.996	-11.371	37.005	1.00	23.73	BLGL
ATOM	1234	CB	LEU	170	2.164	-10.751	35.875	1.00	20.57	BLGL
ATOM	1235	CG	LEU	170	1.474	-9.415	36.185	1.00	21.09	BLGL
ATOM	1236	CD1	LEU	170	2.470	-8.395	36.723	1.00	21.42	BLGL
ATOM	1237	CD2	LEU	170	0.811	-8.894	34.934	1.00	20.49	BLGL
ATOM	1238	C	LEU	170	2.158	-11.504	38.272	1.00	23.90	BLGL
ATOM	1239	O	LEU	170	1.222	-12.305	38.326	1.00	22.71	BLGL
ATOM	1240	N	ALA	171	2.522	-10.731	39.292	1.00	23.01	BLGL
ATOM	1241	CA	ALA	171	1.816	-10.724	40.567	1.00	22.14	BLGL
ATOM	1242	CB	ALA	171	0.544	-9.911	40.433	1.00	22.04	BLGL
ATOM	1243	C	ALA	171	1.488	-12.114	41.109	1.00	23.55	BLGL
ATOM	1244	O	ALA	171	0.354	-12.382	41.512	1.00	23.66	BLGL
ATOM	1245	N	GLY	172	2.479	-12.996	41.122	1.00	22.96	BLGL
ATOM	1246	CA	GLY	172	2.259	-14.337	41.632	1.00	25.97	BLGL
ATOM	1247	C	GLY	172	1.592	-15.299	40.666	1.00	27.36	BLGL
ATOM	1248	O	GLY	172	1.412	-16.474	40.980	1.00	27.94	BLGL
ATOM	1249	N	GLU	173	1.225	-14.808	39.490	1.00	28.30	BLGL
ATOM	1250	CA	GLU	173	0.584	-15.643	38.487	1.00	29.90	BLGL
ATOM	1251	CB	GLU	173	-0.540	-14.858	37.815	1.00	30.87	BLGL
ATOM	1252	CG	GLU	173	-1.888	-15.557	37.824	1.00	33.63	BLGL
ATOM	1253	CD	GLU	173	-2.308	-16.014	39.208	1.00	34.41	BLGL

Fig. 4 cont.

145/174

ATOM	1254	OE1	GLU	173	-2.334	-15.181	40.139	1.00	34.20	BLGL
ATOM	1255	OE2	GLU	173	-2.618	-17.214	39.359	1.00	34.57	BLGL
ATOM	1256	C	GLU	173	1.619	-16.084	37.450	1.00	30.77	BLGL
ATOM	1257	O	GLU	173	2.481	-15.302	37.053	1.00	31.69	BLGL
ATOM	1258	N	THR	174	1.539	-17.338	37.017	1.00	30.71	BLGL
ATOM	1259	CA	THR	174	2.484	-17.864	36.038	1.00	30.81	BLGL
ATOM	1260	CB	THR	174	3.366	-18.975	36.661	1.00	30.70	BLGL
ATOM	1261	OG1	THR	174	2.533	-20.027	37.167	1.00	33.92	BLGL
ATOM	1262	CG2	THR	174	4.201	-18.416	37.792	1.00	29.44	BLGL
ATOM	1263	C	THR	174	1.801	-18.426	34.792	1.00	31.23	BLGL
ATOM	1264	O	THR	174	2.470	-18.868	33.857	1.00	31.14	BLGL
ATOM	1265	N	ASP	175	0.473	-18.409	34.779	1.00	31.31	BLGL
ATOM	1266	CA	ASP	175	-0.276	-18.923	33.640	1.00	31.53	BLGL
ATOM	1267	CB	ASP	175	-1.565	-19.589	34.120	1.00	35.17	BLGL
ATOM	1268	CG	ASP	175	-2.447	-20.030	32.972	1.00	38.71	BLGL
ATOM	1269	OD1	ASP	175	-1.925	-20.654	32.023	1.00	39.79	BLGL
ATOM	1270	OD2	ASP	175	-3.665	-19.758	33.022	1.00	42.47	BLGL
ATOM	1271	C	ASP	175	-0.605	-17.796	32.674	1.00	30.63	BLGL
ATOM	1272	O	ASP	175	-1.363	-16.890	33.016	1.00	30.64	BLGL
ATOM	1273	N	TRP	176	-0.055	-17.861	31.463	1.00	27.62	BLGL
ATOM	1274	CA	TRP	176	-0.281	-16.806	30.480	1.00	27.93	BLGL
ATOM	1275	CB	TRP	176	0.403	-17.147	29.157	1.00	24.63	BLGL
ATOM	1276	CG	TRP	176	1.882	-16.910	29.193	1.00	26.55	BLGL
ATOM	1277	CD2	TRP	176	2.557	-15.666	28.966	1.00	27.36	BLGL
ATOM	1278	CE2	TRP	176	3.940	-15.900	29.148	1.00	27.27	BLGL
ATOM	1279	CE3	TRP	176	2.128	-14.375	28.625	1.00	27.01	BLGL
ATOM	1280	CD1	TRP	176	2.855	-17.820	29.498	1.00	26.56	BLGL
ATOM	1281	NE1	TRP	176	4.094	-17.222	29.473	1.00	26.37	BLGL
ATOM	1282	CZ2	TRP	176	4.899	-14.887	29.004	1.00	25.56	BLGL
ATOM	1283	CZ3	TRP	176	3.085	-13.365	28.482	1.00	25.94	BLGL
ATOM	1284	CH2	TRP	176	4.453	-13.631	28.671	1.00	25.57	BLGL
ATOM	1285	C	TRP	176	-1.739	-16.427	30.234	1.00	29.80	BLGL
ATOM	1286	O	TRP	176	-2.033	-15.289	29.857	1.00	30.42	BLGL
ATOM	1287	N	ALA	177	-2.656	-17.368	30.441	1.00	31.37	BLGL
ATOM	1288	CA	ALA	177	-4.073	-17.077	30.249	1.00	30.31	BLGL
ATOM	1289	CB	ALA	177	-4.889	-18.354	30.339	1.00	30.40	BLGL
ATOM	1290	C	ALA	177	-4.500	-16.104	31.342	1.00	31.32	BLGL
ATOM	1291	O	ALA	177	-5.199	-15.124	31.085	1.00	31.10	BLGL
ATOM	1292	N	LYS	178	-4.070	-16.379	32.569	1.00	30.35	BLGL
ATOM	1293	CA	LYS	178	-4.401	-15.507	33.680	1.00	31.58	BLGL
ATOM	1294	CB	LYS	178	-4.181	-16.235	35.008	1.00	33.69	BLGL
ATOM	1295	CG	LYS	178	-5.114	-17.410	35.234	1.00	37.35	BLGL
ATOM	1296	CD	LYS	178	-4.994	-17.911	36.664	1.00	43.39	BLGL
ATOM	1297	CE	LYS	178	-5.780	-19.196	36.897	1.00	45.38	BLGL
ATOM	1298	NZ	LYS	178	-5.125	-20.370	36.252	1.00	47.94	BLGL
ATOM	1299	C	LYS	178	-3.568	-14.217	33.637	1.00	30.97	BLGL
ATOM	1300	O	LYS	178	-4.040	-13.153	34.043	1.00	31.65	BLGL
ATOM	1301	N	MET	179	-2.333	-14.306	33.149	1.00	29.06	BLGL
ATOM	1302	CA	MET	179	-1.485	-13.126	33.062	1.00	26.50	BLGL
ATOM	1303	CB	MET	179	-0.110	-13.481	32.521	1.00	27.08	BLGL
ATOM	1304	CG	MET	179	0.789	-14.179	33.507	1.00	29.22	BLGL
ATOM	1305	SD	MET	179	2.433	-14.378	32.801	1.00	32.04	BLGL
ATOM	1306	CE	MET	179	2.432	-16.100	32.529	1.00	37.19	BLGL
ATOM	1307	C	MET	179	-2.122	-12.106	32.141	1.00	25.11	BLGL
ATOM	1308	O	MET	179	-2.206	-10.924	32.478	1.00	24.38	BLGL
ATOM	1309	N	SER	180	-2.566	-12.572	30.977	1.00	23.38	BLGL
ATOM	1310	CA	SER	180	-3.199	-11.707	29.985	1.00	23.70	BLGL
ATOM	1311	CB	SER	180	-3.725	-12.533	28.812	1.00	23.12	BLGL
ATOM	1312	OG	SER	180	-2.691	-13.297	28.223	1.00	23.86	BLGL
ATOM	1313	C	SER	180	-4.348	-10.933	30.605	1.00	24.08	BLGL
ATOM	1314	O	SER	180	-4.552	-9.756	30.313	1.00	23.86	BLGL
ATOM	1315	N	GLN	181	-5.101	-11.601	31.467	1.00	25.04	BLGL
ATOM	1316	CA	GLN	181	-6.226	-10.965	32.129	1.00	27.04	BLGL
ATOM	1317	CB	GLN	181	-7.064	-12.009	32.864	1.00	29.17	BLGL
ATOM	1318	CG	GLN	181	-7.820	-12.940	31.932	1.00	33.08	BLGL
ATOM	1319	CD	GLN	181	-8.761	-13.860	32.675	1.00	35.97	BLGL

Fig. 4 cont.

146/174

ATOM	1320	OE1	GLN	181	-8.558	-15.077	32.724	1.00	36.76	BLGL
ATOM	1321	NE2	GLN	181	-9.801	-13.280	33.269	1.00	37.03	BLGL
ATOM	1322	C	GLN	181	-5.774	-9.874	33.091	1.00	27.11	BLGL
ATOM	1323	O	GLN	181	-6.459	-8.864	33.252	1.00	28.46	BLGL
ATOM	1324	N	LEU	182	-4.628	-10.080	33.737	1.00	26.80	BLGL
ATOM	1325	CA	LEU	182	-4.086	-9.081	34.655	1.00	25.48	BLGL
ATOM	1326	CB	LEU	182	-2.932	-9.665	35.472	1.00	25.40	BLGL
ATOM	1327	CG	LEU	182	-3.296	-10.736	36.504	1.00	27.62	BLGL
ATOM	1328	CD1	LEU	182	-2.035	-11.268	37.156	1.00	27.60	BLGL
ATOM	1329	CD2	LEU	182	-4.229	-10.149	37.556	1.00	26.92	BLGL
ATOM	1330	C	LEU	182	-3.591	-7.899	33.823	1.00	24.10	BLGL
ATOM	1331	O	LEU	182	-3.739	-6.740	34.211	1.00	23.49	BLGL
ATOM	1332	N	PHE	183	-3.000	-8.211	32.675	1.00	21.91	BLGL
ATOM	1333	CA	PHE	183	-2.512	-7.187	31.770	1.00	22.28	BLGL
ATOM	1334	CB	PHE	183	-1.888	-7.826	30.528	1.00	21.38	BLGL
ATOM	1335	CG	PHE	183	-0.500	-8.347	30.737	1.00	20.19	BLGL
ATOM	1336	CD1	PHE	183	-0.064	-9.469	30.042	1.00	20.38	BLGL
ATOM	1337	CD2	PHE	183	0.385	-7.704	31.597	1.00	22.77	BLGL
ATOM	1338	CE1	PHE	183	1.236	-9.953	30.192	1.00	20.30	BLGL
ATOM	1339	CE2	PHE	183	1.693	-8.174	31.761	1.00	24.59	BLGL
ATOM	1340	CZ	PHE	183	2.120	-9.305	31.054	1.00	23.28	BLGL
ATOM	1341	C	PHE	183	-3.668	-6.283	31.348	1.00	22.44	BLGL
ATOM	1342	O	PHE	183	-3.548	-5.059	31.384	1.00	22.23	BLGL
ATOM	1343	N	ASN	184	-4.792	-6.881	30.954	1.00	22.00	BLGL
ATOM	1344	CA	ASN	184	-5.939	-6.087	30.533	1.00	20.53	BLGL
ATOM	1345	CB	ASN	184	-7.012	-6.964	29.895	1.00	20.92	BLGL
ATOM	1346	CG	ASN	184	-6.677	-7.345	28.474	1.00	21.95	BLGL
ATOM	1347	OD1	ASN	184	-6.162	-6.535	27.708	1.00	24.93	BLGL
ATOM	1348	ND2	ASN	184	-6.983	-8.579	28.108	1.00	26.02	BLGL
ATOM	1349	C	ASN	184	-6.538	-5.293	31.679	1.00	17.99	BLGL
ATOM	1350	O	ASN	184	-7.053	-4.199	31.474	1.00	18.30	BLGL
ATOM	1351	N	ALA	185	-6.458	-5.841	32.884	1.00	16.83	BLGL
ATOM	1352	CA	ALA	185	-6.976	-5.163	34.066	1.00	18.27	BLGL
ATOM	1353	CB	ALA	185	-6.815	-6.048	35.294	1.00	16.14	BLGL
ATOM	1354	C	ALA	185	-6.215	-3.857	34.261	1.00	18.87	BLGL
ATOM	1355	O	ALA	185	-6.812	-2.795	34.422	1.00	17.89	BLGL
ATOM	1356	N	GLY	186	-4.888	-3.945	34.244	1.00	20.07	BLGL
ATOM	1357	CA	GLY	186	-4.073	-2.756	34.409	1.00	19.75	BLGL
ATOM	1358	C	GLY	186	-4.273	-1.834	33.226	1.00	19.07	BLGL
ATOM	1359	O	GLY	186	-4.367	-0.620	33.373	1.00	20.22	BLGL
ATOM	1360	N	SER	187	-4.345	-2.424	32.042	1.00	18.72	BLGL
ATOM	1361	CA	SER	187	-4.534	-1.664	30.819	1.00	18.78	BLGL
ATOM	1362	CB	SER	187	-4.570	-2.618	29.627	1.00	19.99	BLGL
ATOM	1363	CG	SER	187	-4.606	-1.903	28.409	1.00	22.89	BLGL
ATOM	1364	C	SER	187	-5.840	-0.877	30.897	1.00	20.30	BLGL
ATOM	1365	O	SER	187	-5.879	0.311	30.582	1.00	20.23	BLGL
ATOM	1366	N	GLN	188	-6.903	-1.554	31.325	1.00	19.43	BLGL
ATOM	1367	CA	GLN	188	-8.233	-0.960	31.465	1.00	20.10	BLGL
ATOM	1368	CB	GLN	188	-9.192	-1.990	32.093	1.00	21.27	BLGL
ATOM	1369	CG	GLN	188	-10.592	-1.480	32.439	1.00	24.00	BLGL
ATOM	1370	CD	GLN	188	-11.358	-0.973	31.228	1.00	29.54	BLGL
ATOM	1371	OE1	GLN	188	-11.546	-1.695	30.242	1.00	33.67	BLGL
ATOM	1372	NE2	GLN	188	-11.808	0.274	31.295	1.00	28.21	BLGL
ATOM	1373	C	GLN	188	-8.191	0.303	32.322	1.00	20.12	BLGL
ATOM	1374	O	GLN	188	-8.779	1.322	31.984	1.00	19.92	BLGL
ATOM	1375	N	ALA	189	-7.493	0.227	33.442	1.00	20.06	BLGL
ATOM	1376	CA	ALA	189	-7.383	1.366	34.329	1.00	19.56	BLGL
ATOM	1377	CB	ALA	189	-6.587	0.982	35.563	1.00	18.86	BLGL
ATOM	1378	C	ALA	189	-6.728	2.546	33.626	1.00	19.66	BLGL
ATOM	1379	O	ALA	189	-7.150	3.681	33.805	1.00	20.48	BLGL
ATOM	1380	N	VAL	190	-5.697	2.273	32.831	1.00	19.85	BLGL
ATOM	1381	CA	VAL	190	-4.984	3.324	32.108	1.00	21.68	BLGL
ATOM	1382	CB	VAL	190	-3.717	2.755	31.378	1.00	21.13	BLGL
ATOM	1383	CG1	VAL	190	-2.955	3.875	30.675	1.00	17.97	BLGL
ATOM	1384	CG2	VAL	190	-2.809	2.069	32.376	1.00	18.02	BLGL
ATOM	1385	C	VAL	190	-5.922	3.966	31.087	1.00	22.56	BLGL

Fig. 4 cont.

147/174

ATOM	1386	O	VAL	190	-6.041	5.190	31.007	1.00	21.59	BLGL
ATOM	1387	N	ARG	191	-6.590	3.122	30.311	1.00	24.93	BLGL
ATOM	1388	CA	ARG	191	-7.528	3.577	29.297	1.00	24.90	BLGL
ATOM	1389	CB	ARG	191	-8.199	2.375	28.640	1.00	22.96	BLGL
ATOM	1390	CG	ARG	191	-7.687	2.059	27.236	1.00	25.30	BLGL
ATOM	1391	CD	ARG	191	-6.416	1.230	27.171	1.00	24.11	BLGL
ATOM	1392	NE	ARG	191	-5.369	1.936	26.503	1.00	24.46	BLGL
ATOM	1393	CZ	ARG	191	-4.581	1.653	25.474	1.00	21.34	BLGL
ATOM	1394	NH1	ARG	191	-3.733	2.613	25.208	1.00	22.37	BLGL
ATOM	1395	NH2	ARG	191	-4.584	0.551	24.731	1.00	21.45	BLGL
ATOM	1396	C	ARG	191	-8.590	4.492	29.892	1.00	25.14	BLGL
ATOM	1397	O	ARG	191	-8.904	5.535	29.334	1.00	27.85	BLGL
ATOM	1398	N	GLU	192	-9.145	4.098	31.026	1.00	25.90	BLGL
ATOM	1399	CA	GLU	192	-10.170	4.895	31.683	1.00	28.14	BLGL
ATOM	1400	CB	GLU	192	-10.761	4.129	32.865	1.00	28.90	BLGL
ATOM	1401	CG	GLU	192	-11.776	3.079	32.494	1.00	31.91	BLGL
ATOM	1402	CD	GLU	192	-12.200	2.266	33.697	1.00	32.43	BLGL
ATOM	1403	OE1	GLU	192	-12.359	2.874	34.772	1.00	28.80	BLGL
ATOM	1404	OE2	GLU	192	-12.378	1.033	33.569	1.00	34.08	BLGL
ATOM	1405	C	GLU	192	-9.630	6.223	32.190	1.00	28.73	BLGL
ATOM	1406	O	GLU	192	-10.352	7.219	32.278	1.00	31.92	BLGL
ATOM	1407	N	THR	193	-8.355	6.237	32.541	1.00	27.87	BLGL
ATOM	1408	CA	THR	193	-7.741	7.445	33.064	1.00	26.29	BLGL
ATOM	1409	CB	THR	193	-6.416	7.098	33.780	1.00	25.98	BLGL
ATOM	1410	OG1	THR	193	-6.697	6.231	34.884	1.00	27.07	BLGL
ATOM	1411	CG2	THR	193	-5.725	8.350	34.296	1.00	24.23	BLGL
ATOM	1412	C	THR	193	-7.488	8.500	31.990	1.00	25.40	BLGL
ATOM	1413	O	THR	193	-7.827	9.666	32.160	1.00	22.00	BLGL
ATOM	1414	N	ASP	194	-6.909	8.084	30.872	1.00	27.05	BLGL
ATOM	1415	CA	ASP	194	-6.585	9.020	29.810	1.00	27.87	BLGL
ATOM	1416	CB	ASP	194	-5.396	9.870	30.271	1.00	29.53	BLGL
ATOM	1417	CG	ASP	194	-4.956	10.881	29.243	1.00	32.75	BLGL
ATOM	1418	OD1	ASP	194	-4.131	11.746	29.606	1.00	34.57	BLGL
ATOM	1419	OD2	ASP	194	-5.418	10.816	28.081	1.00	35.03	BLGL
ATOM	1420	C	ASP	194	-6.245	8.249	28.546	1.00	27.55	BLGL
ATOM	1421	O	ASP	194	-5.389	7.368	28.565	1.00	29.57	BLGL
ATOM	1422	N	SER	195	-6.917	8.580	27.449	1.00	27.67	BLGL
ATOM	1423	CA	SER	195	-6.690	7.903	26.169	1.00	30.14	BLGL
ATOM	1424	CB	SER	195	-7.748	8.333	25.154	1.00	31.04	BLGL
ATOM	1425	OG	SER	195	-9.041	7.986	25.608	1.00	38.90	BLGL
ATOM	1426	C	SER	195	-5.314	8.137	25.553	1.00	29.28	BLGL
ATOM	1427	O	SER	195	-4.830	7.319	24.773	1.00	26.29	BLGL
ATOM	1428	N	ASN	196	-4.690	9.255	25.903	1.00	30.46	BLGL
ATOM	1429	CA	ASN	196	-3.387	9.600	25.358	1.00	32.52	BLGL
ATOM	1430	CB	ASN	196	-3.147	11.097	25.514	1.00	38.65	BLGL
ATOM	1431	CG	ASN	196	-4.246	11.919	24.892	1.00	45.74	BLGL
ATOM	1432	OD1	ASN	196	-4.436	11.902	23.672	1.00	47.81	BLGL
ATOM	1433	ND2	ASN	196	-4.996	12.637	25.729	1.00	49.19	BLGL
ATOM	1434	C	ASN	196	-2.232	8.838	25.981	1.00	30.86	BLGL
ATOM	1435	O	ASN	196	-1.141	8.779	25.411	1.00	31.65	BLGL
ATOM	1436	N	ILE	197	-2.459	8.260	27.153	1.00	28.33	BLGL
ATOM	1437	CA	ILE	197	-1.403	7.517	27.816	1.00	25.33	BLGL
ATOM	1438	CB	ILE	197	-1.771	7.224	29.282	1.00	24.62	BLGL
ATOM	1439	CG2	ILE	197	-0.720	6.335	29.919	1.00	24.24	BLGL
ATOM	1440	CG1	ILE	197	-1.873	8.542	30.053	1.00	24.08	BLGL
ATOM	1441	CD1	ILE	197	-2.239	8.380	31.513	1.00	24.86	BLGL
ATOM	1442	C	ILE	197	-1.149	6.222	27.064	1.00	23.64	BLGL
ATOM	1443	O	ILE	197	-2.081	5.487	26.748	1.00	23.83	BLGL
ATOM	1444	N	LEU	198	0.116	5.962	26.754	1.00	21.57	BLGL
ATOM	1445	CA	LEU	198	0.483	4.751	26.039	1.00	21.61	BLGL
ATOM	1446	CB	LEU	198	1.787	4.962	25.271	1.00	21.02	BLGL
ATOM	1447	CG	LEU	198	1.683	5.885	24.055	1.00	22.44	BLGL
ATOM	1448	CD1	LEU	198	3.062	6.252	23.554	1.00	22.29	BLGL
ATOM	1449	CD2	LEU	198	0.881	5.188	22.967	1.00	23.53	BLGL
ATOM	1450	C	LEU	198	0.653	3.605	27.013	1.00	21.75	BLGL
ATOM	1451	O	LEU	198	1.250	3.776	28.073	1.00	23.44	BLGL

Fig. 4 cont.

148/174

ATOM	1452	N	VAL	199	0.114	2.441	26.666	1.00	20.49	BLGL
ATOM	1453	CA	VAL	199	0.244	1.266	27.516	1.00	19.26	BLGL
ATOM	1454	CB	VAL	199	-1.040	0.450	27.555	1.00	19.98	BLGL
ATOM	1455	CG1	VAL	199	-0.816	-0.815	28.364	1.00	19.20	BLGL
ATOM	1456	CG2	VAL	199	-2.148	1.282	28.149	1.00	21.20	BLGL
ATOM	1457	C	VAL	199	1.352	0.376	26.979	1.00	18.65	BLGL
ATOM	1458	O	VAL	199	1.329	-0.029	25.818	1.00	16.57	BLGL
ATOM	1459	N	ALA	200	2.314	0.061	27.839	1.00	17.36	BLGL
ATOM	1460	CA	ALA	200	3.436	-0.760	27.432	1.00	17.13	BLGL
ATOM	1461	CB	ALA	200	4.701	0.087	27.427	1.00	15.68	BLGL
ATOM	1462	C	ALA	200	3.645	-1.991	28.299	1.00	16.72	BLGL
ATOM	1463	O	ALA	200	3.403	-1.960	29.501	1.00	15.94	BLGL
ATOM	1464	N	LEU	201	4.079	-3.077	27.661	1.00	17.11	BLGL
ATOM	1465	CA	LEU	201	4.390	-4.332	28.339	1.00	17.16	BLGL
ATOM	1466	CB	LEU	201	3.638	-5.502	27.706	1.00	17.16	BLGL
ATOM	1467	CG	LEU	201	2.114	-5.388	27.753	1.00	17.50	BLGL
ATOM	1468	CD1	LEU	201	1.497	-6.671	27.236	1.00	20.85	BLGL
ATOM	1469	CD2	LEU	201	1.654	-5.132	29.172	1.00	19.12	BLGL
ATOM	1470	C	LEU	201	5.907	-4.497	28.186	1.00	17.78	BLGL
ATOM	1471	O	LEU	201	6.465	-4.279	27.111	1.00	17.49	BLGL
ATOM	1472	N	HIS	202	6.568	-4.874	29.272	1.00	18.05	BLGL
ATOM	1473	CA	HIS	202	8.018	-4.981	29.294	1.00	17.54	BLGL
ATOM	1474	CB	HIS	202	8.519	-4.129	30.460	1.00	17.68	BLGL
ATOM	1475	CG	HIS	202	10.002	-4.110	30.616	1.00	19.94	BLGL
ATOM	1476	CD2	HIS	202	10.998	-4.372	29.741	1.00	20.39	BLGL
ATOM	1477	ND1	HIS	202	10.613	-3.773	31.805	1.00	21.65	BLGL
ATOM	1478	CE1	HIS	202	11.922	-3.831	31.655	1.00	22.99	BLGL
ATOM	1479	NE2	HIS	202	12.183	-4.193	30.411	1.00	23.44	BLGL
ATOM	1480	C	HIS	202	8.569	-6.400	29.402	1.00	18.30	BLGL
ATOM	1481	O	HIS	202	8.272	-7.122	30.354	1.00	18.51	BLGL
ATOM	1482	N	PHE	203	9.386	-6.790	28.429	1.00	16.01	BLGL
ATOM	1483	CA	PHE	203	9.989	-8.114	28.431	1.00	16.62	BLGL
ATOM	1484	CB	PHE	203	9.398	-8.963	27.316	1.00	13.11	BLGL
ATOM	1485	CG	PHE	203	7.912	-9.055	27.375	1.00	17.34	BLGL
ATOM	1486	CD1	PHE	203	7.116	-8.119	26.724	1.00	17.15	BLGL
ATOM	1487	CD2	PHE	203	7.299	-10.037	28.144	1.00	15.95	BLGL
ATOM	1488	CE1	PHE	203	5.738	-8.158	26.840	1.00	16.32	BLGL
ATOM	1489	CE2	PHE	203	5.925	-10.083	28.266	1.00	16.04	BLGL
ATOM	1490	CZ	PHE	203	5.141	-9.140	27.612	1.00	18.54	BLGL
ATOM	1491	C	PHE	203	11.504	-8.033	28.274	1.00	19.65	BLGL
ATOM	1492	O	PHE	203	12.051	-6.987	27.910	1.00	21.99	BLGL
ATOM	1493	N	THR	204	12.188	-9.135	28.552	1.00	17.81	BLGL
ATOM	1494	CA	THR	204	13.634	-9.133	28.426	1.00	18.21	BLGL
ATOM	1495	CB	THR	204	14.314	-8.849	29.798	1.00	17.19	BLGL
ATOM	1496	OG1	THR	204	15.726	-8.736	29.611	1.00	14.37	BLGL
ATOM	1497	CG2	THR	204	14.006	-9.951	30.809	1.00	13.65	BLGL
ATOM	1498	C	THR	204	14.161	-10.428	27.809	1.00	18.61	BLGL
ATOM	1499	O	THR	204	13.394	-11.352	27.534	1.00	16.21	BLGL
ATOM	1500	N	ASN	205	15.469	-10.473	27.580	1.00	17.26	BLGL
ATOM	1501	CA	ASN	205	16.112	-11.622	26.964	1.00	17.80	BLGL
ATOM	1502	CB	ASN	205	15.814	-12.907	27.728	1.00	18.45	BLGL
ATOM	1503	CG	ASN	205	16.601	-13.000	29.001	1.00	18.12	BLGL
ATOM	1504	OD1	ASN	205	16.070	-12.811	30.094	1.00	20.78	BLGL
ATOM	1505	ND2	ASN	205	17.890	-13.266	28.868	1.00	18.03	BLGL
ATOM	1506	C	ASN	205	15.701	-11.784	25.520	1.00	17.89	BLGL
ATOM	1507	O	ASN	205	15.129	-12.800	25.135	1.00	18.21	BLGL
ATOM	1508	N	PRO	206	15.988	-10.771	24.697	1.00	18.39	BLGL
ATOM	1509	CD	PRO	206	16.580	-9.480	25.080	1.00	15.66	BLGL
ATOM	1510	CA	PRO	206	15.657	-10.778	23.273	1.00	19.70	BLGL
ATOM	1511	CB	PRO	206	15.903	-9.334	22.867	1.00	19.33	BLGL
ATOM	1512	CG	PRO	206	17.029	-8.939	23.756	1.00	16.74	BLGL
ATOM	1513	C	PRO	206	16.500	-11.748	22.459	1.00	21.36	BLGL
ATOM	1514	O	PRO	206	16.158	-12.055	21.318	1.00	22.70	BLGL
ATOM	1515	N	GLU	207	17.601	-12.224	23.034	1.00	23.27	BLGL
ATOM	1516	CA	GLU	207	18.478	-13.154	22.324	1.00	25.47	BLGL
ATOM	1517	CB	GLU	207	19.871	-13.210	22.959	1.00	26.18	BLGL

Fig. 4 cont.

149/174

ATOM	1518	CG	GLU	207	20.021	-12.502	24.288	1.00	30.25	BLGL
ATOM	1519	CD	GLU	207	19.242	-13.139	25.413	1.00	29.52	BLGL
ATOM	1520	OE1	GLU	207	19.387	-14.353	25.643	1.00	33.25	BLGL
ATOM	1521	OE2	GLU	207	18.495	-12.413	26.081	1.00	29.56	BLGL
ATOM	1522	C	GLU	207	17.924	-14.561	22.258	1.00	26.20	BLGL
ATOM	1523	O	GLU	207	18.354	-15.357	21.426	1.00	29.50	BLGL
ATOM	1524	N	THR	208	16.982	-14.873	23.139	1.00	25.50	BLGL
ATOM	1525	CA	THR	208	16.384	-16.196	23.151	1.00	25.38	BLGL
ATOM	1526	CB	THR	208	15.419	-16.349	24.314	1.00	25.02	BLGL
ATOM	1527	OG1	THR	208	16.108	-16.063	25.532	1.00	24.40	BLGL
ATOM	1528	CG2	THR	208	14.871	-17.765	24.361	1.00	24.75	BLGL
ATOM	1529	C	THR	208	15.628	-16.435	21.853	1.00	24.66	BLGL
ATOM	1530	O	THR	208	14.689	-15.711	21.531	1.00	23.66	BLGL
ATOM	1531	N	SER	209	16.047	-17.455	21.114	1.00	24.67	BLGL
ATOM	1532	CA	SER	209	15.424	-17.791	19.842	1.00	25.56	BLGL
ATOM	1533	CB	SER	209	15.971	-19.120	19.334	1.00	23.59	BLGL
ATOM	1534	OG	SER	209	15.290	-19.524	18.166	1.00	26.21	BLGL
ATOM	1535	C	SER	209	13.896	-17.862	19.885	1.00	26.32	BLGL
ATOM	1536	O	SER	209	13.321	-18.668	20.632	1.00	23.52	BLGL
ATOM	1537	N	GLY	210	13.257	-17.004	19.083	1.00	26.00	BLGL
ATOM	1538	CA	GLY	210	11.803	-16.966	18.977	1.00	25.41	BLGL
ATOM	1539	C	GLY	210	10.990	-16.593	20.204	1.00	26.60	BLGL
ATOM	1540	O	GLY	210	9.768	-16.755	20.215	1.00	26.52	BLGL
ATOM	1541	N	ARG	211	11.659	-16.080	21.231	1.00	27.83	BLGL
ATOM	1542	CA	ARG	211	11.004	-15.692	22.478	1.00	25.31	BLGL
ATOM	1543	CB	ARG	211	12.046	-15.244	23.496	1.00	26.05	BLGL
ATOM	1544	CG	ARG	211	11.487	-15.024	24.881	1.00	26.98	BLGL
ATOM	1545	CD	ARG	211	12.479	-14.289	25.747	1.00	28.49	BLGL
ATOM	1546	NE	ARG	211	12.362	-14.719	27.125	1.00	32.45	BLGL
ATOM	1547	CZ	ARG	211	13.043	-15.727	27.655	1.00	34.26	BLGL
ATOM	1548	NH1	ARG	211	13.903	-16.408	26.920	1.00	33.07	BLGL
ATOM	1549	NH2	ARG	211	12.850	-16.067	28.924	1.00	40.91	BLGL
ATOM	1550	C	ARG	211	9.977	-14.580	22.294	1.00	24.24	BLGL
ATOM	1551	O	ARG	211	8.806	-14.744	22.634	1.00	24.47	BLGL
ATOM	1552	N	TYR	212	10.413	-13.440	21.768	1.00	22.57	BLGL
ATOM	1553	CA	TYR	212	9.499	-12.323	21.558	1.00	20.27	BLGL
ATOM	1554	CB	TYR	212	10.262	-11.080	21.093	1.00	18.26	BLGL
ATOM	1555	CG	TYR	212	11.063	-10.409	22.188	1.00	20.40	BLGL
ATOM	1556	CD1	TYR	212	11.669	-9.170	21.972	1.00	19.09	BLGL
ATOM	1557	CE1	TYR	212	12.387	-8.538	22.982	1.00	16.98	BLGL
ATOM	1558	CD2	TYR	212	11.204	-11.001	23.445	1.00	17.87	BLGL
ATOM	1559	CE2	TYR	212	11.919	-10.377	24.457	1.00	15.68	BLGL
ATOM	1560	CZ	TYR	212	12.505	-9.147	24.225	1.00	16.21	BLGL
ATOM	1561	OH	TYR	212	13.200	-8.514	25.235	1.00	15.74	BLGL
ATOM	1562	C	TYR	212	8.398	-12.670	20.559	1.00	20.87	BLGL
ATOM	1563	O	TYR	212	7.259	-12.237	20.712	1.00	20.22	BLGL
ATOM	1564	N	ALA	213	8.734	-13.449	19.537	1.00	19.68	BLGL
ATOM	1565	CA	ALA	213	7.742	-13.847	18.547	1.00	19.79	BLGL
ATOM	1566	CB	ALA	213	8.399	-14.687	17.454	1.00	17.89	BLGL
ATOM	1567	C	ALA	213	6.629	-14.642	19.231	1.00	19.99	BLGL
ATOM	1568	O	ALA	213	5.451	-14.479	18.911	1.00	19.71	BLGL
ATOM	1569	N	TRP	214	7.009	-15.496	20.176	1.00	20.09	BLGL
ATOM	1570	CA	TRP	214	6.039	-16.309	20.900	1.00	21.30	BLGL
ATOM	1571	CB	TRP	214	6.753	-17.375	21.732	1.00	22.71	BLGL
ATOM	1572	CG	TRP	214	5.815	-18.281	22.468	1.00	24.60	BLGL
ATOM	1573	CD2	TRP	214	5.308	-18.094	23.795	1.00	24.97	BLGL
ATOM	1574	CE2	TRP	214	4.449	-19.183	24.074	1.00	24.59	BLGL
ATOM	1575	CE3	TRP	214	5.496	-17.112	24.775	1.00	25.69	BLGL
ATOM	1576	CD1	TRP	214	5.256	-19.440	22.005	1.00	24.97	BLGL
ATOM	1577	NE1	TRP	214	4.436	-19.989	22.966	1.00	25.84	BLGL
ATOM	1578	CZ2	TRP	214	3.780	-19.319	25.294	1.00	22.78	BLGL
ATOM	1579	CZ3	TRP	214	4.829	-17.248	25.991	1.00	27.53	BLGL
ATOM	1580	CH2	TRP	214	3.981	-18.345	26.238	1.00	24.84	BLGL
ATOM	1581	C	TRP	214	5.167	-15.453	21.816	1.00	21.83	BLGL
ATOM	1582	O	TRP	214	3.948	-15.630	21.857	1.00	20.77	BLGL
ATOM	1583	N	ILE	215	5.793	-14.531	22.550	1.00	21.49	BLGL

Fig. 4 cont.

150/174

ATOM	1584	CA	ILE	215	5.067	-13.654	23.469	1.00	19.18	BLGL
ATOM	1585	CB	ILE	215	6.038	-12.771	24.300	1.00	19.85	BLGL
ATOM	1586	CG2	ILE	215	5.257	-11.811	25.198	1.00	15.32	BLGL
ATOM	1587	CG1	ILE	215	6.930	-13.651	25.170	1.00	18.25	BLGL
ATOM	1588	CD1	ILE	215	7.930	-12.876	25.975	1.00	15.25	BLGL
ATOM	1589	C	ILE	215	4.104	-12.740	22.725	1.00	19.79	BLGL
ATOM	1590	O	ILE	215	2.964	-12.550	23.146	1.00	18.73	BLGL
ATOM	1591	N	ALA	216	4.565	-12.163	21.621	1.00	19.35	BLGL
ATOM	1592	CA	ALA	216	3.723	-11.275	20.840	1.00	18.57	BLGL
ATOM	1593	CB	ALA	216	4.492	-10.751	19.650	1.00	18.16	BLGL
ATOM	1594	C	ALA	216	2.472	-12.020	20.378	1.00	20.55	BLGL
ATOM	1595	O	ALA	216	1.359	-11.501	20.466	1.00	16.58	BLGL
ATOM	1596	N	GLU	217	2.669	-13.242	19.890	1.00	22.90	BLGL
ATOM	1597	CA	GLU	217	1.569	-14.077	19.419	1.00	24.77	BLGL
ATOM	1598	CB	GLU	217	2.122	-15.338	18.747	1.00	28.27	BLGL
ATOM	1599	CG	GLU	217	1.063	-16.371	18.379	1.00	33.34	BLGL
ATOM	1600	CD	GLU	217	-0.002	-15.823	17.449	1.00	35.08	BLGL
ATOM	1601	OE1	GLU	217	-1.049	-16.485	17.288	1.00	39.18	BLGL
ATOM	1602	OE2	GLU	217	0.208	-14.737	16.875	1.00	35.59	BLGL
ATOM	1603	C	GLU	217	0.623	-14.468	20.560	1.00	24.16	BLGL
ATOM	1604	O	GLU	217	-0.596	-14.464	20.395	1.00	22.67	BLGL
ATOM	1605	N	THR	218	1.195	-14.805	21.713	1.00	24.08	BLGL
ATOM	1606	CA	THR	218	0.412	-15.191	22.878	1.00	23.79	BLGL
ATOM	1607	CB	THR	218	1.334	-15.684	24.027	1.00	25.12	BLGL
ATOM	1608	OG1	THR	218	1.985	-16.896	23.630	1.00	26.14	BLGL
ATOM	1609	CG2	THR	218	0.537	-15.942	25.298	1.00	23.98	BLGL
ATOM	1610	C	THR	218	-0.429	-14.014	23.362	1.00	22.94	BLGL
ATOM	1611	O	THR	218	-1.600	-14.179	23.692	1.00	24.35	BLGL
ATOM	1612	N	LEU	219	0.160	-12.825	23.401	1.00	21.92	BLGL
ATOM	1613	CA	LEU	219	-0.578	-11.644	23.846	1.00	23.28	BLGL
ATOM	1614	CB	LEU	219	0.333	-10.410	23.863	1.00	21.92	BLGL
ATOM	1615	CG	LEU	219	1.462	-10.359	24.893	1.00	18.90	BLGL
ATOM	1616	CD1	LEU	219	2.386	-9.209	24.570	1.00	14.80	BLGL
ATOM	1617	CD2	LEU	219	0.879	-10.220	26.289	1.00	16.33	BLGL
ATOM	1618	C	LEU	219	-1.753	-11.394	22.903	1.00	24.55	BLGL
ATOM	1619	O	LEU	219	-2.850	-11.031	23.322	1.00	25.23	BLGL
ATOM	1620	N	HIS	220	-1.512	-11.603	21.619	1.00	25.34	BLGL
ATOM	1621	CA	HIS	220	-2.539	-11.401	20.622	1.00	25.88	BLGL
ATOM	1622	CB	HIS	220	-1.904	-11.450	19.236	1.00	27.15	BLGL
ATOM	1623	CG	HIS	220	-2.888	-11.366	18.116	1.00	31.81	BLGL
ATOM	1624	CD2	HIS	220	-3.485	-10.300	17.529	1.00	31.02	BLGL
ATOM	1625	ND1	HIS	220	-3.388	-12.486	17.483	1.00	33.38	BLGL
ATOM	1626	CE1	HIS	220	-4.250	-12.111	16.554	1.00	33.29	BLGL
ATOM	1627	NE2	HIS	220	-4.326	-10.791	16.562	1.00	32.86	BLGL
ATOM	1628	C	HIS	220	-3.665	-12.423	20.743	1.00	26.70	BLGL
ATOM	1629	O	HIS	220	-4.839	-12.076	20.617	1.00	25.81	BLGL
ATOM	1630	N	ARG	221	-3.312	-13.679	20.993	1.00	28.18	BLGL
ATOM	1631	CA	ARG	221	-4.314	-14.730	21.133	1.00	30.04	BLGL
ATOM	1632	CB	ARG	221	-3.648	-16.090	21.361	1.00	33.95	BLGL
ATOM	1633	CG	ARG	221	-3.038	-16.680	20.095	1.00	40.22	BLGL
ATOM	1634	CD	ARG	221	-2.052	-17.802	20.368	1.00	47.28	BLGL
ATOM	1635	NE	ARG	221	-2.419	-19.012	19.696	1.00	52.72	BLGL
ATOM	1636	CZ	ARG	221	-1.881	-19.711	18.699	1.00	54.00	BLGL
ATOM	1637	NH1	ARG	221	-2.572	-20.786	18.387	1.00	56.27	BLGL
ATOM	1638	NH2	ARG	221	-0.762	-19.439	18.032	1.00	52.22	BLGL
ATOM	1639	C	ARG	221	-5.263	-14.440	22.276	1.00	29.71	BLGL
ATOM	1640	O	ARG	221	-6.441	-14.790	22.204	1.00	30.75	BLGL
ATOM	1641	N	HIS	222	-4.757	-13.803	23.331	1.00	27.89	BLGL
ATOM	1642	CA	HIS	222	-5.599	-13.482	24.477	1.00	27.09	BLGL
ATOM	1643	CB	HIS	222	-4.844	-13.728	25.782	1.00	26.93	BLGL
ATOM	1644	CG	HIS	222	-4.530	-15.168	26.023	1.00	28.56	BLGL
ATOM	1645	CD2	HIS	222	-5.196	-16.121	26.716	1.00	30.01	BLGL
ATOM	1646	ND1	HIS	222	-3.441	-15.797	25.459	1.00	31.08	BLGL
ATOM	1647	CE1	HIS	222	-3.448	-17.076	25.792	1.00	30.75	BLGL
ATOM	1648	NE2	HIS	222	-4.504	-17.298	26.554	1.00	33.11	BLGL
ATOM	1649	C	HIS	222	-6.159	-12.064	24.456	1.00	26.57	BLGL

Fig. 4 cont.

151/174

ATOM	1650	O	HIS	222	-6.646	-11.564	25.469	1.00	25.69	BLGL
ATOM	1651	N	HIS	223	-6.084	-11.418	23.300	1.00	25.18	BLGL
ATOM	1652	CA	HIS	223	-6.627	-10.082	23.151	1.00	26.33	BLGL
ATOM	1653	CB	HIS	223	-8.147	-10.149	23.214	1.00	30.76	BLGL
ATOM	1654	CG	HIS	223	-8.739	-11.182	22.309	1.00	38.88	BLGL
ATOM	1655	CD2	HIS	223	-9.524	-12.253	22.570	1.00	41.07	BLGL
ATOM	1656	ND1	HIS	223	-8.531	-11.182	20.945	1.00	43.14	BLGL
ATOM	1657	CE1	HIS	223	-9.161	-12.210	20.405	1.00	43.27	BLGL
ATOM	1658	NE2	HIS	223	-9.771	-12.876	21.370	1.00	45.48	BLGL
ATOM	1659	C	HIS	223	-6.149	-9.081	24.186	1.00	26.02	BLGL
ATOM	1660	O	HIS	223	-6.961	-8.345	24.750	1.00	27.73	BLGL
ATOM	1661	N	VAL	224	-4.846	-9.044	24.446	1.00	22.81	BLGL
ATOM	1662	CA	VAL	224	-4.316	-8.096	25.413	1.00	18.14	BLGL
ATOM	1663	CB	VAL	224	-2.912	-8.499	25.895	1.00	16.94	BLGL
ATOM	1664	CG1	VAL	224	-2.312	-7.399	26.758	1.00	12.94	BLGL
ATOM	1665	CG2	VAL	224	-2.998	-9.783	26.676	1.00	15.42	BLGL
ATOM	1666	C	VAL	224	-4.241	-6.742	24.734	1.00	17.57	BLGL
ATOM	1667	O	VAL	224	-3.683	-6.610	23.646	1.00	16.83	BLGL
ATOM	1668	N	ASP	225	-4.808	-5.738	25.386	1.00	16.35	BLGL
ATOM	1669	CA	ASP	225	-4.820	-4.393	24.849	1.00	17.47	BLGL
ATOM	1670	CB	ASP	225	-6.123	-3.707	25.254	1.00	17.33	BLGL
ATOM	1671	CG	ASP	225	-6.172	-2.260	24.843	1.00	19.19	BLGL
ATOM	1672	OD1	ASP	225	-5.722	-1.945	23.717	1.00	21.14	BLGL
ATOM	1673	OD2	ASP	225	-6.672	-1.444	25.643	1.00	19.74	BLGL
ATOM	1674	C	ASP	225	-3.626	-3.562	25.306	1.00	18.47	BLGL
ATOM	1675	O	ASP	225	-3.609	-3.073	26.433	1.00	19.94	BLGL
ATOM	1676	N	TYR	226	-2.626	-3.415	24.440	1.00	17.31	BLGL
ATOM	1677	CA	TYR	226	-1.441	-2.610	24.762	1.00	19.05	BLGL
ATOM	1678	CB	TYR	226	-0.315	-3.483	25.359	1.00	17.31	BLGL
ATOM	1679	CG	TYR	226	0.380	-4.417	24.386	1.00	17.91	BLGL
ATOM	1680	CD1	TYR	226	-0.315	-5.469	23.780	1.00	17.20	BLGL
ATOM	1681	CE1	TYR	226	0.317	-6.338	22.891	1.00	14.85	BLGL
ATOM	1682	CD2	TYR	226	1.737	-4.253	24.076	1.00	15.96	BLGL
ATOM	1683	CE2	TYR	226	2.380	-5.117	23.184	1.00	15.01	BLGL
ATOM	1684	CZ	TYR	226	1.661	-6.156	22.598	1.00	16.47	BLGL
ATOM	1685	OH	TYR	226	2.279	-7.019	21.725	1.00	13.64	BLGL
ATOM	1686	C	TYR	226	-0.944	-1.877	23.513	1.00	17.95	BLGL
ATOM	1687	O	TYR	226	-1.285	-2.251	22.398	1.00	17.24	BLGL
ATOM	1688	N	ASP	227	-0.141	-0.836	23.697	1.00	18.09	BLGL
ATOM	1689	CA	ASP	227	0.361	-0.075	22.557	1.00	20.63	BLGL
ATOM	1690	CB	ASP	227	0.126	1.424	22.760	1.00	23.61	BLGL
ATOM	1691	CG	ASP	227	-1.247	1.736	23.282	1.00	24.31	BLGL
ATOM	1692	OD1	ASP	227	-2.242	1.427	22.597	1.00	26.42	BLGL
ATOM	1693	OD2	ASP	227	-1.327	2.298	24.388	1.00	29.59	BLGL
ATOM	1694	C	ASP	227	1.846	-0.263	22.289	1.00	21.20	BLGL
ATOM	1695	O	ASP	227	2.283	-0.241	21.141	1.00	21.63	BLGL
ATOM	1696	N	VAL	228	2.626	-0.432	23.350	1.00	21.33	BLGL
ATOM	1697	CA	VAL	228	4.069	-0.571	23.205	1.00	18.22	BLGL
ATOM	1698	CB	VAL	228	4.822	0.572	23.961	1.00	16.56	BLGL
ATOM	1699	CG1	VAL	228	6.307	0.511	23.669	1.00	16.51	BLGL
ATOM	1700	CG2	VAL	228	4.268	1.921	23.569	1.00	16.96	BLGL
ATOM	1701	C	VAL	228	4.631	-1.892	23.700	1.00	16.80	BLGL
ATOM	1702	O	VAL	228	4.338	-2.338	24.811	1.00	16.77	BLGL
ATOM	1703	N	PHE	229	5.444	-2.510	22.858	1.00	15.66	BLGL
ATOM	1704	CA	PHE	229	6.115	-3.747	23.213	1.00	16.03	BLGL
ATOM	1705	CB	PHE	229	6.177	-4.694	22.007	1.00	15.71	BLGL
ATOM	1706	CG	PHE	229	6.773	-6.038	22.323	1.00	18.72	BLGL
ATOM	1707	CD1	PHE	229	8.148	-6.193	22.458	1.00	20.15	BLGL
ATOM	1708	CD2	PHE	229	5.957	-7.141	22.537	1.00	19.69	BLGL
ATOM	1709	CE1	PHE	229	8.698	-7.424	22.805	1.00	20.33	BLGL
ATOM	1710	CE2	PHE	229	6.502	-8.376	22.885	1.00	19.99	BLGL
ATOM	1711	CZ	PHE	229	7.873	-8.516	23.020	1.00	20.18	BLGL
ATOM	1712	C	PHE	229	7.517	-3.278	23.608	1.00	15.51	BLGL
ATOM	1713	O	PHE	229	8.336	-2.965	22.747	1.00	16.80	BLGL
ATOM	1714	N	ALA	230	7.781	-3.205	24.909	1.00	14.48	BLGL
ATOM	1715	CA	ALA	230	9.076	-2.740	25.392	1.00	16.32	BLGL

Fig. 4 cont.

152/174

ATOM	1716	CB	ALA	230	8.892	-1.878	26.632	1.00	15.48	BLGL
ATOM	1717	C	ALA	230	10.040	-3.878	25.691	1.00	17.75	BLGL
ATOM	1718	O	ALA	230	9.624	-4.990	26.019	1.00	19.06	BLGL
ATOM	1719	N	SER	231	11.334	-3.588	25.580	1.00	15.44	BLGL
ATOM	1720	CA	SER	231	12.363	-4.583	25.829	1.00	15.19	BLGL
ATOM	1721	CB	SER	231	12.863	-5.165	24.498	1.00	12.54	BLGL
ATOM	1722	OG	SER	231	13.966	-6.035	24.696	1.00	9.34	BLGL
ATOM	1723	C	SER	231	13.554	-4.024	26.601	1.00	16.12	BLGL
ATOM	1724	O	SER	231	13.915	-2.852	26.463	1.00	17.19	BLGL
ATOM	1725	N	SER	232	14.152	-4.865	27.434	1.00	14.04	BLGL
ATOM	1726	CA	SER	232	15.341	-4.463	28.159	1.00	15.04	BLGL
ATOM	1727	CB	SER	232	15.505	-5.272	29.447	1.00	14.50	BLGL
ATOM	1728	OG	SER	232	14.733	-4.727	30.499	1.00	17.36	BLGL
ATOM	1729	C	SER	232	16.485	-4.810	27.216	1.00	15.02	BLGL
ATOM	1730	O	SER	232	16.354	-5.696	26.374	1.00	14.13	BLGL
ATOM	1731	N	TYR	233	17.591	-4.094	27.326	1.00	14.36	BLGL
ATOM	1732	CA	TYR	233	18.738	-4.410	26.506	1.00	16.28	BLGL
ATOM	1733	CB	TYR	233	18.721	-3.697	25.152	1.00	15.72	BLGL
ATOM	1734	CG	TYR	233	19.901	-4.146	24.318	1.00	18.38	BLGL
ATOM	1735	CD1	TYR	233	19.935	-5.428	23.762	1.00	17.95	BLGL
ATOM	1736	CE1	TYR	233	21.072	-5.905	23.102	1.00	17.74	BLGL
ATOM	1737	CD2	TYR	233	21.038	-3.342	24.185	1.00	19.16	BLGL
ATOM	1738	CE2	TYR	233	22.181	-3.809	23.528	1.00	18.72	BLGL
ATOM	1739	CZ	TYR	233	22.188	-5.090	22.991	1.00	20.19	BLGL
ATOM	1740	OH	TYR	233	23.305	-5.552	22.339	1.00	21.28	BLGL
ATOM	1741	C	TYR	233	20.051	-4.096	27.204	1.00	18.26	BLGL
ATOM	1742	O	TYR	233	20.488	-2.941	27.282	1.00	19.11	BLGL
ATOM	1743	N	TYR	234	20.672	-5.148	27.715	1.00	18.61	BLGL
ATOM	1744	CA	TYR	234	21.951	-5.047	28.382	1.00	20.22	BLGL
ATOM	1745	CB	TYR	234	21.838	-5.594	29.794	1.00	18.03	BLGL
ATOM	1746	CG	TYR	234	21.020	-4.689	30.678	1.00	19.42	BLGL
ATOM	1747	CD1	TYR	234	21.536	-3.473	31.130	1.00	17.03	BLGL
ATOM	1748	CE1	TYR	234	20.778	-2.628	31.935	1.00	15.84	BLGL
ATOM	1749	CD2	TYR	234	19.718	-5.035	31.051	1.00	20.59	BLGL
ATOM	1750	CE2	TYR	234	18.950	-4.194	31.854	1.00	18.88	BLGL
ATOM	1751	CZ	TYR	234	19.489	-2.995	32.294	1.00	17.70	BLGL
ATOM	1752	OH	TYR	234	18.745	-2.180	33.108	1.00	17.67	BLGL
ATOM	1753	C	TYR	234	22.896	-5.875	27.538	1.00	20.87	BLGL
ATOM	1754	O	TYR	234	22.858	-7.104	27.570	1.00	23.14	BLGL
ATOM	1755	N	PRO	235	23.749	-5.201	26.756	1.00	21.55	BLGL
ATOM	1756	CD	PRO	235	23.983	-3.751	26.857	1.00	21.91	BLGL
ATOM	1757	CA	PRO	235	24.728	-5.825	25.864	1.00	22.81	BLGL
ATOM	1758	CB	PRO	235	25.551	-4.639	25.367	1.00	22.48	BLGL
ATOM	1759	CG	PRO	235	25.422	-3.640	26.471	1.00	21.97	BLGL
ATOM	1760	C	PRO	235	25.575	-6.912	26.508	1.00	23.83	BLGL
ATOM	1761	O	PRO	235	26.118	-7.762	25.812	1.00	26.44	BLGL
ATOM	1762	N	PHE	236	25.673	-6.894	27.834	1.00	24.38	BLGL
ATOM	1763	CA	PHE	236	26.451	-7.894	28.556	1.00	23.56	BLGL
ATOM	1764	CB	PHE	236	26.439	-7.613	30.069	1.00	22.41	BLGL
ATOM	1765	CG	PHE	236	26.751	-6.190	30.432	1.00	20.97	BLGL
ATOM	1766	CD1	PHE	236	25.769	-5.363	30.960	1.00	22.30	BLGL
ATOM	1767	CD2	PHE	236	28.018	-5.666	30.224	1.00	21.90	BLGL
ATOM	1768	CE1	PHE	236	26.043	-4.031	31.274	1.00	20.76	BLGL
ATOM	1769	CE2	PHE	236	28.304	-4.335	30.534	1.00	22.34	BLGL
ATOM	1770	CZ	PHE	236	27.310	-3.518	31.060	1.00	22.41	BLGL
ATOM	1771	C	PHE	236	25.901	-9.297	28.322	1.00	24.55	BLGL
ATOM	1772	O	PHE	236	26.664	-10.252	28.209	1.00	26.43	BLGL
ATOM	1773	N	TRP	237	24.581	-9.425	28.226	1.00	25.33	BLGL
ATOM	1774	CA	TRP	237	23.971	-10.745	28.067	1.00	26.98	BLGL
ATOM	1775	CB	TRP	237	23.270	-11.144	29.367	1.00	27.82	BLGL
ATOM	1776	CG	TRP	237	23.960	-10.698	30.606	1.00	30.90	BLGL
ATOM	1777	CD2	TRP	237	23.562	-9.632	31.466	1.00	31.06	BLGL
ATOM	1778	CE2	TRP	237	24.489	-9.585	32.535	1.00	31.99	BLGL
ATOM	1779	CE3	TRP	237	22.511	-8.711	31.443	1.00	32.34	BLGL
ATOM	1780	CD1	TRP	237	25.084	-11.238	31.162	1.00	33.44	BLGL
ATOM	1781	NE1	TRP	237	25.408	-10.577	32.324	1.00	32.26	BLGL

Fig. 4 cont.

153/174

ATOM	1782	CZ2	TRP	237	24.396	-8.652	33.570	1.00	32.74	BLGL
ATOM	1783	CZ3	TRP	237	22.417	-7.780	32.477	1.00	34.34	BLGL
ATOM	1784	CH2	TRP	237	23.357	-7.761	33.526	1.00	33.93	BLGL
ATOM	1785	C	TRP	237	22.938	-10.894	26.960	1.00	26.05	BLGL
ATOM	1786	O	TRP	237	22.632	-12.011	26.543	1.00	25.25	BLGL
ATOM	1787	N	HIS	238	22.401	-9.778	26.487	1.00	24.70	BLGL
ATOM	1788	CA	HIS	238	21.333	-9.824	25.504	1.00	20.96	BLGL
ATOM	1789	CB	HIS	238	20.358	-8.703	25.824	1.00	19.05	BLGL
ATOM	1790	CG	HIS	238	19.772	-8.821	27.192	1.00	17.38	BLGL
ATOM	1791	CD2	HIS	238	19.601	-9.900	27.990	1.00	16.73	BLGL
ATOM	1792	ND1	HIS	238	19.291	-7.743	27.896	1.00	20.29	BLGL
ATOM	1793	CE1	HIS	238	18.850	-8.151	29.073	1.00	20.03	BLGL
ATOM	1794	NE2	HIS	238	19.026	-9.456	29.154	1.00	19.52	BLGL
ATOM	1795	C	HIS	238	21.628	-9.863	24.019	1.00	20.65	BLGL
ATOM	1796	O	HIS	238	20.854	-9.354	23.217	1.00	22.38	BLGL
ATOM	1797	N	GLY	239	22.730	-10.489	23.643	1.00	19.61	BLGL
ATOM	1798	CA	GLY	239	23.037	-10.607	22.234	1.00	19.09	BLGL
ATOM	1799	C	GLY	239	23.345	-9.338	21.474	1.00	18.09	BLGL
ATOM	1800	O	GLY	239	23.535	-8.271	22.046	1.00	17.84	BLGL
ATOM	1801	N	THR	240	23.369	-9.476	20.158	1.00	17.37	BLGL
ATOM	1802	CA	THR	240	23.697	-8.387	19.258	1.00	18.95	BLGL
ATOM	1803	CB	THR	240	24.139	-8.949	17.896	1.00	18.49	BLGL
ATOM	1804	OG1	THR	240	23.028	-9.589	17.262	1.00	18.33	BLGL
ATOM	1805	CG2	THR	240	25.239	-9.964	18.076	1.00	14.06	BLGL
ATOM	1806	C	THR	240	22.610	-7.348	19.003	1.00	20.98	BLGL
ATOM	1807	O	THR	240	21.418	-7.604	19.169	1.00	19.90	BLGL
ATOM	1808	N	LEU	241	23.043	-6.165	18.581	1.00	21.55	BLGL
ATOM	1809	CA	LEU	241	22.115	-5.094	18.277	1.00	21.65	BLGL
ATOM	1810	CB	LEU	241	22.874	-3.780	18.086	1.00	20.04	BLGL
ATOM	1811	CG	LEU	241	23.464	-3.205	19.381	1.00	21.24	BLGL
ATOM	1812	CD1	LEU	241	24.455	-2.105	19.074	1.00	18.53	BLGL
ATOM	1813	CD2	LEU	241	22.339	-2.689	20.259	1.00	19.54	BLGL
ATOM	1814	C	LEU	241	21.350	-5.458	17.011	1.00	22.88	BLGL
ATOM	1815	O	LEU	241	20.213	-5.043	16.827	1.00	23.81	BLGL
ATOM	1816	N	LYS	242	21.971	-6.248	16.143	1.00	23.90	BLGL
ATOM	1817	CA	LYS	242	21.322	-6.659	14.902	1.00	25.71	BLGL
ATOM	1818	CB	LYS	242	22.314	-7.426	14.025	1.00	30.56	BLGL
ATOM	1819	CG	LYS	242	21.771	-7.855	12.670	1.00	36.92	BLGL
ATOM	1820	CD	LYS	242	22.735	-8.821	11.983	1.00	43.60	BLGL
ATOM	1821	CE	LYS	242	22.175	-9.333	10.664	1.00	48.93	BLGL
ATOM	1822	NZ	LYS	242	21.895	-8.217	9.709	1.00	51.96	BLGL
ATOM	1823	C	LYS	242	20.108	-7.537	15.208	1.00	24.37	BLGL
ATOM	1824	O	LYS	242	19.070	-7.444	14.551	1.00	23.45	BLGL
ATOM	1825	N	ASN	243	20.248	-8.384	16.219	1.00	23.09	BLGL
ATOM	1826	CA	ASN	243	19.178	-9.279	16.637	1.00	21.13	BLGL
ATOM	1827	CB	ASN	243	19.716	-10.285	17.653	1.00	20.66	BLGL
ATOM	1828	CG	ASN	243	18.639	-11.196	18.185	1.00	22.04	BLGL
ATOM	1829	OD1	ASN	243	18.181	-12.102	17.495	1.00	21.37	BLGL
ATOM	1830	ND2	ASN	243	18.215	-10.951	19.415	1.00	21.96	BLGL
ATOM	1831	C	ASN	243	18.041	-8.477	17.264	1.00	21.16	BLGL
ATOM	1832	O	ASN	243	16.861	-8.684	16.957	1.00	18.33	BLGL
ATOM	1833	N	LEU	244	18.408	-7.557	18.151	1.00	20.72	BLGL
ATOM	1834	CA	LEU	244	17.429	-6.712	18.821	1.00	19.78	BLGL
ATOM	1835	CB	LEU	244	18.131	-5.667	19.695	1.00	18.01	BLGL
ATOM	1836	CG	LEU	244	17.188	-4.669	20.372	1.00	16.83	BLGL
ATOM	1837	CD1	LEU	244	16.393	-5.385	21.463	1.00	13.98	BLGL
ATOM	1838	CD2	LEU	244	17.995	-3.515	20.950	1.00	16.04	BLGL
ATOM	1839	C	LEU	244	16.565	-6.000	17.792	1.00	19.53	BLGL
ATOM	1840	O	LEU	244	15.341	-6.054	17.853	1.00	20.39	BLGL
ATOM	1841	N	THR	245	17.214	-5.332	16.846	1.00	18.73	BLGL
ATOM	1842	CA	THR	245	16.505	-4.606	15.810	1.00	18.66	BLGL
ATOM	1843	CB	THR	245	17.474	-3.996	14.785	1.00	19.64	BLGL
ATOM	1844	OG1	THR	245	18.318	-3.037	15.430	1.00	21.51	BLGL
ATOM	1845	CG2	THR	245	16.697	-3.311	13.664	1.00	17.47	BLGL
ATOM	1846	C	THR	245	15.574	-5.531	15.062	1.00	19.92	BLGL
ATOM	1847	O	THR	245	14.410	-5.219	14.834	1.00	21.53	BLGL

Fig. 4 cont.

154/174

ATOM	1848	N	SER	246	16.109	-6.678	14.678	1.00	20.39	BLGL
ATOM	1849	CA	SER	246	15.361	-7.661	13.927	1.00	19.04	BLGL
ATOM	1850	CB	SER	246	16.303	-8.792	13.538	1.00	18.29	BLGL
ATOM	1851	OG	SER	246	15.593	-9.911	13.053	1.00	23.84	BLGL
ATOM	1852	C	SER	246	14.164	-8.205	14.695	1.00	20.89	BLGL
ATOM	1853	O	SER	246	13.034	-8.169	14.214	1.00	22.76	BLGL
ATOM	1854	N	VAL	247	14.411	-8.703	15.899	1.00	21.65	BLGL
ATOM	1855	CA	VAL	247	13.343	-9.280	16.701	1.00	21.83	BLGL
ATOM	1856	CB	VAL	247	13.923	-9.883	18.005	1.00	20.50	BLGL
ATOM	1857	CG1	VAL	247	14.342	-8.786	18.962	1.00	20.71	BLGL
ATOM	1858	CG2	VAL	247	12.912	-10.800	18.636	1.00	23.56	BLGL
ATOM	1859	C	VAL	247	12.215	-8.275	17.006	1.00	22.43	BLGL
ATOM	1860	O	VAL	247	11.031	-8.631	17.000	1.00	22.15	BLGL
ATOM	1861	N	LEU	248	12.578	-7.020	17.255	1.00	22.41	BLGL
ATOM	1862	CA	LEU	248	11.584	-5.990	17.538	1.00	22.55	BLGL
ATOM	1863	CB	LEU	248	12.251	-4.734	18.125	1.00	20.88	BLGL
ATOM	1864	CG	LEU	248	12.778	-4.816	19.563	1.00	19.44	BLGL
ATOM	1865	CD1	LEU	248	13.426	-3.498	19.954	1.00	17.12	BLGL
ATOM	1866	CD2	LEU	248	11.639	-5.143	20.505	1.00	15.29	BLGL
ATOM	1867	C	LEU	248	10.805	-5.617	16.270	1.00	23.02	BLGL
ATOM	1868	O	LEU	248	9.597	-5.381	16.318	1.00	22.01	BLGL
ATOM	1869	N	THR	249	11.496	-5.570	15.136	1.00	20.49	BLGL
ATOM	1870	CA	THR	249	10.844	-5.220	13.890	1.00	21.29	BLGL
ATOM	1871	CB	THR	249	11.836	-5.197	12.722	1.00	22.20	BLGL
ATOM	1872	OG1	THR	249	12.872	-4.246	12.994	1.00	24.83	BLGL
ATOM	1873	CG2	THR	249	11.128	-4.808	11.440	1.00	20.47	BLGL
ATOM	1874	C	THR	249	9.739	-6.214	13.573	1.00	22.84	BLGL
ATOM	1875	O	THR	249	8.706	-5.842	13.020	1.00	20.69	BLGL
ATOM	1876	N	SER	250	9.956	-7.481	13.920	1.00	23.97	BLGL
ATOM	1877	CA	SER	250	8.945	-8.509	13.667	1.00	25.77	BLGL
ATOM	1878	CB	SER	250	9.451	-9.889	14.076	1.00	27.18	BLGL
ATOM	1879	OG	SER	250	10.487	-10.310	13.213	1.00	34.71	BLGL
ATOM	1880	C	SER	250	7.686	-8.196	14.446	1.00	24.53	BLGL
ATOM	1881	O	SER	250	6.590	-8.207	13.892	1.00	24.89	BLGL
ATOM	1882	N	VAL	251	7.850	-7.919	15.736	1.00	22.02	BLGL
ATOM	1883	CA	VAL	251	6.713	-7.592	16.581	1.00	20.32	BLGL
ATOM	1884	CB	VAL	251	7.156	-7.246	18.022	1.00	19.00	BLGL
ATOM	1885	CG1	VAL	251	5.972	-6.733	18.822	1.00	19.03	BLGL
ATOM	1886	CG2	VAL	251	7.736	-8.475	18.693	1.00	17.23	BLGL
ATOM	1887	C	VAL	251	5.968	-6.401	15.984	1.00	20.70	BLGL
ATOM	1888	O	VAL	251	4.741	-6.399	15.912	1.00	20.26	BLGL
ATOM	1889	N	ALA	252	6.717	-5.396	15.546	1.00	20.84	BLGL
ATOM	1890	CA	ALA	252	6.123	-4.198	14.965	1.00	21.97	BLGL
ATOM	1891	CB	ALA	252	7.203	-3.175	14.663	1.00	21.24	BLGL
ATOM	1892	C	ALA	252	5.330	-4.497	13.701	1.00	22.61	BLGL
ATOM	1893	O	ALA	252	4.137	-4.219	13.629	1.00	23.36	BLGL
ATOM	1894	N	ASP	253	5.999	-5.069	12.711	1.00	22.58	BLGL
ATOM	1895	CA	ASP	253	5.366	-5.386	11.440	1.00	23.48	BLGL
ATOM	1896	CB	ASP	253	6.394	-5.968	10.472	1.00	23.27	BLGL
ATOM	1897	CG	ASP	253	7.403	-4.946	10.019	1.00	25.67	BLGL
ATOM	1898	OD1	ASP	253	8.372	-5.346	9.337	1.00	26.60	BLGL
ATOM	1899	OD2	ASP	253	7.224	-3.744	10.344	1.00	27.47	BLGL
ATOM	1900	C	ASP	253	4.203	-6.352	11.556	1.00	24.77	BLGL
ATOM	1901	O	ASP	253	3.174	-6.174	10.904	1.00	25.85	BLGL
ATOM	1902	N	THR	254	4.359	-7.371	12.389	1.00	24.09	BLGL
ATOM	1903	CA	THR	254	3.317	-8.374	12.537	1.00	22.38	BLGL
ATOM	1904	CB	THR	254	3.892	-9.679	13.094	1.00	21.12	BLGL
ATOM	1905	OG1	THR	254	5.000	-10.096	12.287	1.00	22.06	BLGL
ATOM	1906	CG2	THR	254	2.836	-10.765	13.073	1.00	20.31	BLGL
ATOM	1907	C	THR	254	2.123	-7.977	13.395	1.00	23.11	BLGL
ATOM	1908	O	THR	254	0.995	-8.366	13.102	1.00	26.89	BLGL
ATOM	1909	N	TYR	255	2.345	-7.201	14.444	1.00	21.45	BLGL
ATOM	1910	CA	TYR	255	1.231	-6.835	15.307	1.00	20.15	BLGL
ATOM	1911	CB	TYR	255	1.488	-7.377	16.709	1.00	20.87	BLGL
ATOM	1912	CG	TYR	255	1.670	-8.876	16.701	1.00	22.40	BLGL
ATOM	1913	CD1	TYR	255	0.568	-9.728	16.568	1.00	21.45	BLGL

Fig. 4 cont.

155/174

ATOM	1914	CE1	TYR	255	0.731	-11.107	16.494	1.00	21.01	BLGL
ATOM	1915	CD2	TYR	255	2.943	-9.443	16.761	1.00	19.96	BLGL
ATOM	1916	CE2	TYR	255	3.117	-10.822	16.686	1.00	20.59	BLGL
ATOM	1917	CZ	TYR	255	2.008	-11.647	16.554	1.00	21.17	BLGL
ATOM	1918	OH	TYR	255	2.179	-13.009	16.495	1.00	21.44	BLGL
ATOM	1919	C	TYR	255	0.927	-5.357	15.360	1.00	19.29	BLGL
ATOM	1920	O	TYR	255	0.056	-4.923	16.104	1.00	19.71	BLGL
ATOM	1921	N	GLY	256	1.649	-4.585	14.562	1.00	20.06	BLGL
ATOM	1922	CA	GLY	256	1.421	-3.155	14.516	1.00	21.23	BLGL
ATOM	1923	C	GLY	256	1.582	-2.454	15.847	1.00	21.40	BLGL
ATOM	1924	O	GLY	256	0.788	-1.593	16.212	1.00	22.35	BLGL
ATOM	1925	N	LYS	257	2.619	-2.815	16.581	1.00	20.19	BLGL
ATOM	1926	CA	LYS	257	2.845	-2.182	17.861	1.00	21.01	BLGL
ATOM	1927	CB	LYS	257	3.032	-3.244	18.949	1.00	20.86	BLGL
ATOM	1928	CG	LYS	257	1.863	-4.191	19.122	1.00	18.58	BLGL
ATOM	1929	CD	LYS	257	0.615	-3.458	19.566	1.00	17.81	BLGL
ATOM	1930	CE	LYS	257	-0.524	-4.428	19.765	1.00	16.84	BLGL
ATOM	1931	NZ	LYS	257	-1.801	-3.739	20.053	1.00	19.74	BLGL
ATOM	1932	C	LYS	257	4.082	-1.300	17.792	1.00	20.95	BLGL
ATOM	1933	O	LYS	257	4.934	-1.474	16.918	1.00	19.83	BLGL
ATOM	1934	N	LYS	258	4.161	-0.333	18.699	1.00	19.92	BLGL
ATOM	1935	CA	LYS	258	5.329	0.526	18.771	1.00	21.02	BLGL
ATOM	1936	CB	LYS	258	5.037	1.785	19.581	1.00	24.26	BLGL
ATOM	1937	CG	LYS	258	3.850	2.601	19.139	1.00	27.83	BLGL
ATOM	1938	CD	LYS	258	4.143	3.387	17.887	1.00	33.22	BLGL
ATOM	1939	CE	LYS	258	3.297	4.652	17.862	1.00	36.49	BLGL
ATOM	1940	NZ	LYS	258	1.845	4.362	18.036	1.00	38.07	BLGL
ATOM	1941	C	LYS	258	6.322	-0.326	19.559	1.00	21.33	BLGL
ATOM	1942	O	LYS	258	5.923	-1.248	20.276	1.00	21.62	BLGL
ATOM	1943	N	VAL	259	7.607	-0.037	19.430	1.00	18.75	BLGL
ATOM	1944	CA	VAL	259	8.604	-0.786	20.176	1.00	17.87	BLGL
ATOM	1945	CB	VAL	259	9.391	-1.762	19.271	1.00	17.66	BLGL
ATOM	1946	CG1	VAL	259	8.447	-2.789	18.686	1.00	16.47	BLGL
ATOM	1947	CG2	VAL	259	10.118	-0.997	18.171	1.00	16.36	BLGL
ATOM	1948	C	VAL	259	9.572	0.190	20.816	1.00	18.60	BLGL
ATOM	1949	O	VAL	259	9.628	1.362	20.443	1.00	19.89	BLGL
ATOM	1950	N	MET	260	10.328	-0.280	21.794	1.00	18.23	BLGL
ATOM	1951	CA	MET	260	11.295	0.583	22.452	1.00	18.93	BLGL
ATOM	1952	CB	MET	260	10.594	1.741	23.179	1.00	17.82	BLGL
ATOM	1953	CG	MET	260	9.861	1.335	24.450	1.00	18.62	BLGL
ATOM	1954	SD	MET	260	9.338	2.760	25.444	1.00	20.82	BLGL
ATOM	1955	CE	MET	260	9.092	1.989	27.061	1.00	14.70	BLGL
ATOM	1956	C	MET	260	12.109	-0.200	23.461	1.00	18.97	BLGL
ATOM	1957	O	MET	260	11.757	-1.326	23.827	1.00	18.84	BLGL
ATOM	1958	N	VAL	261	13.207	0.401	23.900	1.00	18.49	BLGL
ATOM	1959	CA	VAL	261	14.049	-0.215	24.907	1.00	19.01	BLGL
ATOM	1960	CB	VAL	261	15.545	-0.063	24.567	1.00	18.88	BLGL
ATOM	1961	CG1	VAL	261	16.399	-0.549	25.728	1.00	19.31	BLGL
ATOM	1962	CG2	VAL	261	15.867	-0.867	23.326	1.00	17.95	BLGL
ATOM	1963	C	VAL	261	13.713	0.493	26.218	1.00	17.97	BLGL
ATOM	1964	O	VAL	261	13.854	1.712	26.343	1.00	14.60	BLGL
ATOM	1965	N	ALA	262	13.228	-0.280	27.180	1.00	18.80	BLGL
ATOM	1966	CA	ALA	262	12.846	0.269	28.473	1.00	21.56	BLGL
ATOM	1967	CB	ALA	262	11.777	-0.617	29.107	1.00	20.01	BLGL
ATOM	1968	C	ALA	262	14.047	0.409	29.412	1.00	21.77	BLGL
ATOM	1969	O	ALA	262	14.079	1.297	30.262	1.00	22.42	BLGL
ATOM	1970	N	GLU	263	15.036	-0.464	29.247	1.00	20.47	BLGL
ATOM	1971	CA	GLU	263	16.214	-0.433	30.091	1.00	19.18	BLGL
ATOM	1972	CB	GLU	263	16.099	-1.464	31.211	1.00	18.99	BLGL
ATOM	1973	CG	GLU	263	15.178	-1.102	32.358	1.00	21.05	BLGL
ATOM	1974	CD	GLU	263	15.151	-2.191	33.417	1.00	19.91	BLGL
ATOM	1975	OE1	GLU	263	16.207	-2.819	33.642	1.00	20.67	BLGL
ATOM	1976	OE2	GLU	263	14.087	-2.422	34.029	1.00	22.21	BLGL
ATOM	1977	C	GLU	263	17.483	-0.729	29.319	1.00	19.96	BLGL
ATOM	1978	O	GLU	263	17.497	-1.587	28.440	1.00	20.56	BLGL
ATOM	1979	N	THR	264	18.547	-0.013	29.661	1.00	17.62	BLGL

Fig. 4 cont.

156/174

ATOM	1980	CA	THR	264	19.844	-0.219	29.042	1.00	15.98	BLGL
ATOM	1981	CB	THR	264	19.874	0.247	27.573	1.00	16.21	BLGL
ATOM	1982	OG1	THR	264	20.989	-0.366	26.907	1.00	15.60	BLGL
ATOM	1983	CG2	THR	264	20.036	1.771	27.494	1.00	13.52	BLGL
ATOM	1984	C	THR	264	20.872	0.578	29.820	1.00	15.21	BLGL
ATOM	1985	O	THR	264	20.532	1.477	30.579	1.00	14.74	BLGL
ATOM	1986	N	SER	265	22.136	0.240	29.621	1.00	15.34	BLGL
ATOM	1987	CA	SER	265	23.229	0.936	30.280	1.00	16.34	BLGL
ATOM	1988	CB	SER	265	23.113	0.819	31.802	1.00	16.26	BLGL
ATOM	1989	OG	SER	265	23.293	-0.517	32.249	1.00	16.64	BLGL
ATOM	1990	C	SER	265	24.531	0.312	29.826	1.00	17.34	BLGL
ATOM	1991	O	SER	265	24.543	-0.607	29.005	1.00	18.70	BLGL
ATOM	1992	N	TYR	266	25.629	0.836	30.349	1.00	18.17	BLGL
ATOM	1993	CA	TYR	266	26.939	0.307	30.039	1.00	17.93	BLGL
ATOM	1994	CB	TYR	266	27.397	0.699	28.640	1.00	15.84	BLGL
ATOM	1995	CG	TYR	266	28.485	-0.218	28.131	1.00	17.82	BLGL
ATOM	1996	CD1	TYR	266	28.192	-1.527	27.774	1.00	18.54	BLGL
ATOM	1997	CE1	TYR	266	29.186	-2.396	27.329	1.00	19.26	BLGL
ATOM	1998	CD2	TYR	266	29.816	0.210	28.035	1.00	20.22	BLGL
ATOM	1999	CE2	TYR	266	30.826	-0.656	27.591	1.00	19.11	BLGL
ATOM	2000	CZ	TYR	266	30.499	-1.962	27.238	1.00	19.47	BLGL
ATOM	2001	OH	TYR	266	31.472	-2.836	26.784	1.00	18.36	BLGL
ATOM	2002	C	TYR	266	27.911	0.846	31.064	1.00	18.90	BLGL
ATOM	2003	O	TYR	266	27.681	1.895	31.665	1.00	18.09	BLGL
ATOM	2004	N	THR	267	28.995	0.105	31.259	1.00	20.38	BLGL
ATOM	2005	CA	THR	267	30.037	0.462	32.210	1.00	21.04	BLGL
ATOM	2006	CB	THR	267	30.852	-0.773	32.580	1.00	20.00	BLGL
ATOM	2007	OG1	THR	267	31.305	-1.402	31.373	1.00	19.78	BLGL
ATOM	2008	CG2	THR	267	30.017	-1.752	33.366	1.00	19.30	BLGL
ATOM	2009	C	THR	267	31.000	1.482	31.619	1.00	21.49	BLGL
ATOM	2010	O	THR	267	31.455	1.315	30.488	1.00	24.81	BLGL
ATOM	2011	N	TYR	268	31.320	2.525	32.384	1.00	20.55	BLGL
ATOM	2012	CA	TYR	268	32.268	3.546	31.933	1.00	20.98	BLGL
ATOM	2013	CB	TYR	268	31.724	4.958	32.205	1.00	21.01	BLGL
ATOM	2014	CG	TYR	268	31.844	5.439	33.639	1.00	19.32	BLGL
ATOM	2015	CD1	TYR	268	33.019	6.027	34.105	1.00	20.87	BLGL
ATOM	2016	CE1	TYR	268	33.129	6.471	35.426	1.00	20.17	BLGL
ATOM	2017	CD2	TYR	268	30.778	5.302	34.532	1.00	21.37	BLGL
ATOM	2018	CE2	TYR	268	30.873	5.739	35.853	1.00	19.23	BLGL
ATOM	2019	CZ	TYR	268	32.049	6.322	36.295	1.00	21.74	BLGL
ATOM	2020	OH	TYR	268	32.137	6.753	37.604	1.00	22.30	BLGL
ATOM	2021	C	TYR	268	33.597	3.364	32.664	1.00	21.83	BLGL
ATOM	2022	O	TYR	268	34.590	4.013	32.344	1.00	18.94	BLGL
ATOM	2023	N	THR	269	33.600	2.479	33.657	1.00	22.82	BLGL
ATOM	2024	CA	THR	269	34.795	2.213	34.451	1.00	23.10	BLGL
ATOM	2025	CB	THR	269	34.970	3.271	35.573	1.00	20.44	BLGL
ATOM	2026	OG1	THR	269	36.161	2.989	36.311	1.00	20.91	BLGL
ATOM	2027	CG2	THR	269	33.791	3.250	36.524	1.00	18.84	BLGL
ATOM	2028	C	THR	269	34.693	0.834	35.083	1.00	23.00	BLGL
ATOM	2029	O	THR	269	33.607	0.376	35.403	1.00	25.15	BLGL
ATOM	2030	N	ALA	270	35.826	0.170	35.259	1.00	24.31	BLGL
ATOM	2031	CA	ALA	270	35.825	-1.158	35.853	1.00	24.71	BLGL
ATOM	2032	CB	ALA	270	37.058	-1.933	35.409	1.00	21.17	BLGL
ATOM	2033	C	ALA	270	35.810	-1.019	37.361	1.00	25.78	BLGL
ATOM	2034	O	ALA	270	35.538	-1.970	38.080	1.00	29.18	BLGL
ATOM	2035	N	GLU	271	36.083	0.185	37.836	1.00	27.12	BLGL
ATOM	2036	CA	GLU	271	36.133	0.448	39.263	1.00	29.78	BLGL
ATOM	2037	CB	GLU	271	36.914	1.742	39.495	1.00	32.08	BLGL
ATOM	2038	CG	GLU	271	36.864	2.261	40.920	1.00	35.54	BLGL
ATOM	2039	CD	GLU	271	37.750	3.466	41.110	1.00	36.58	BLGL
ATOM	2040	OE1	GLU	271	38.022	4.167	40.108	1.00	36.10	BLGL
ATOM	2041	OE2	GLU	271	38.160	3.714	42.262	1.00	38.61	BLGL
ATOM	2042	C	GLU	271	34.783	0.527	39.977	1.00	30.16	BLGL
ATOM	2043	O	GLU	271	33.776	0.938	39.405	1.00	31.60	BLGL
ATOM	2044	N	ASP	272	34.782	0.125	41.242	1.00	30.13	BLGL
ATOM	2045	CA	ASP	272	33.590	0.169	42.081	1.00	30.63	BLGL

Fig. 4 cont.

157/174

ATOM	2046	CB	ASP	272	33.333	-1.190	42.722	1.00	29.68	BLGL
ATOM	2047	CG	ASP	272	32.488	-1.081	43.968	1.00	29.93	BLGL
ATOM	2048	OD1	ASP	272	31.427	-0.428	43.896	1.00	29.02	BLGL
ATOM	2049	OD2	ASP	272	32.884	-1.640	45.014	1.00	30.80	BLGL
ATOM	2050	C	ASP	272	33.865	1.188	43.178	1.00	31.65	BLGL
ATOM	2051	O	ASP	272	34.705	0.946	44.045	1.00	33.92	BLGL
ATOM	2052	N	GLY	273	33.163	2.318	43.157	1.00	31.58	BLGL
ATOM	2053	CA	GLY	273	33.420	3.340	44.158	1.00	32.18	BLGL
ATOM	2054	C	GLY	273	32.476	3.304	45.333	1.00	31.14	BLGL
ATOM	2055	O	GLY	273	32.407	4.250	46.116	1.00	32.09	BLGL
ATOM	2056	N	ASP	274	31.786	2.184	45.472	1.00	30.99	BLGL
ATOM	2057	CA	ASP	274	30.790	2.002	46.511	1.00	30.40	BLGL
ATOM	2058	CB	ASP	274	29.550	1.377	45.871	1.00	31.29	BLGL
ATOM	2059	CG	ASP	274	28.304	1.620	46.659	1.00	32.35	BLGL
ATOM	2060	OD1	ASP	274	27.319	0.902	46.433	1.00	34.84	BLGL
ATOM	2061	OD2	ASP	274	28.299	2.539	47.495	1.00	38.43	BLGL
ATOM	2062	C	ASP	274	31.264	1.104	47.649	1.00	30.15	BLGL
ATOM	2063	O	ASP	274	31.075	1.408	48.827	1.00	28.39	BLGL
ATOM	2064	N	GLY	275	31.867	-0.017	47.283	1.00	28.33	BLGL
ATOM	2065	CA	GLY	275	32.311	-0.956	48.283	1.00	29.05	BLGL
ATOM	2066	C	GLY	275	31.486	-2.210	48.099	1.00	28.72	BLGL
ATOM	2067	O	GLY	275	31.881	-3.298	48.519	1.00	31.31	BLGL
ATOM	2068	N	HIS	276	30.325	-2.046	47.472	1.00	26.86	BLGL
ATOM	2069	CA	HIS	276	29.431	-3.164	47.191	1.00	24.43	BLGL
ATOM	2070	CB	HIS	276	27.974	-2.726	47.336	1.00	23.89	BLGL
ATOM	2071	CG	HIS	276	26.986	-3.842	47.172	1.00	26.16	BLGL
ATOM	2072	CD2	HIS	276	26.329	-4.297	46.078	1.00	24.85	BLGL
ATOM	2073	ND1	HIS	276	26.595	-4.652	48.217	1.00	26.36	BLGL
ATOM	2074	CE1	HIS	276	25.741	-5.557	47.776	1.00	24.78	BLGL
ATOM	2075	NE2	HIS	276	25.562	-5.363	46.481	1.00	25.01	BLGL
ATOM	2076	C	HIS	276	29.691	-3.597	45.748	1.00	24.24	BLGL
ATOM	2077	O	HIS	276	29.512	-2.808	44.822	1.00	23.66	BLGL
ATOM	2078	N	GLY	277	30.108	-4.844	45.562	1.00	23.41	BLGL
ATOM	2079	CA	GLY	277	30.397	-5.343	44.225	1.00	23.85	BLGL
ATOM	2080	C	GLY	277	29.405	-4.987	43.130	1.00	24.88	BLGL
ATOM	2081	O	GLY	277	28.185	-5.064	43.320	1.00	25.03	BLGL
ATOM	2082	N	ASN	278	29.935	-4.616	41.966	1.00	24.25	BLGL
ATOM	2083	CA	ASN	278	29.114	-4.238	40.822	1.00	22.79	BLGL
ATOM	2084	CB	ASN	278	29.827	-3.150	40.027	1.00	21.96	BLGL
ATOM	2085	CG	ASN	278	29.928	-1.844	40.797	1.00	23.90	BLGL
ATOM	2086	ND2	ASN	278	30.661	-0.934	40.410	1.00	26.25	BLGL
ATOM	2087	OD1	ASN	278	29.177	-1.742	41.889	1.00	21.34	BLGL
ATOM	2088	C	ASN	278	28.748	-5.407	39.910	1.00	23.33	BLGL
ATOM	2089	O	ASN	278	29.408	-6.443	39.898	1.00	22.97	BLGL
ATOM	2090	N	THR	279	27.675	-5.226	39.152	1.00	23.75	BLGL
ATOM	2091	CA	THR	279	27.188	-6.247	38.241	1.00	24.46	BLGL
ATOM	2092	CB	THR	279	25.821	-5.857	37.666	1.00	25.31	BLGL
ATOM	2093	OG1	THR	279	24.874	-5.729	38.728	1.00	27.04	BLGL
ATOM	2094	CG2	THR	279	25.331	-6.910	36.701	1.00	28.22	BLGL
ATOM	2095	C	THR	279	28.137	-6.482	37.078	1.00	24.01	BLGL
ATOM	2096	O	THR	279	28.356	-7.613	36.659	1.00	24.35	BLGL
ATOM	2097	N	ALA	280	28.687	-5.401	36.547	1.00	24.16	BLGL
ATOM	2098	CA	ALA	280	29.599	-5.495	35.422	1.00	24.11	BLGL
ATOM	2099	CB	ALA	280	28.857	-5.182	34.137	1.00	21.63	BLGL
ATOM	2100	C	ALA	280	30.749	-4.522	35.616	1.00	25.17	BLGL
ATOM	2101	O	ALA	280	30.638	-3.565	36.379	1.00	26.21	BLGL
ATOM	2102	N	PRO	281	31.881	-4.766	34.942	1.00	25.93	BLGL
ATOM	2103	CD	PRO	281	32.977	-3.790	34.829	1.00	26.64	BLGL
ATOM	2104	CA	PRO	281	32.106	-5.896	34.037	1.00	27.75	BLGL
ATOM	2105	CB	PRO	281	33.155	-5.353	33.084	1.00	27.25	BLGL
ATOM	2106	CG	PRO	281	34.001	-4.545	33.998	1.00	28.42	BLGL
ATOM	2107	C	PRO	281	32.590	-7.142	34.773	1.00	29.21	BLGL
ATOM	2108	O	PRO	281	33.055	-7.071	35.902	1.00	31.08	BLGL
ATOM	2109	N	LYS	282	32.468	-8.287	34.123	1.00	31.67	BLGL
ATOM	2110	CA	LYS	282	32.902	-9.546	34.705	1.00	35.33	BLGL
ATOM	2111	CB	LYS	282	31.788	-10.169	35.537	1.00	34.90	BLGL

Fig. 4 cont.

158/174

ATOM	2112	CG	LYS	282	31.527	-9.495	36.861	1.00	37.13	BLGL
ATOM	2113	CD	LYS	282	30.496	-10.301	37.636	1.00	38.88	BLGL
ATOM	2114	CE	LYS	282	30.386	-9.846	39.077	1.00	40.27	BLGL
ATOM	2115	NZ	LYS	282	29.540	-10.796	39.851	1.00	42.22	BLGL
ATOM	2116	C	LYS	282	33.270	-10.495	33.583	1.00	38.11	BLGL
ATOM	2117	O	LYS	282	32.931	-10.251	32.429	1.00	39.52	BLGL
ATOM	2118	N	ASN	283	33.967	-11.575	33.920	1.00	42.82	BLGL
ATOM	2119	CA	ASN	283	34.355	-12.558	32.914	1.00	46.20	BLGL
ATOM	2120	CB	ASN	283	35.290	-13.614	33.512	1.00	50.82	BLGL
ATOM	2121	CG	ASN	283	36.534	-13.010	34.122	1.00	56.85	BLGL
ATOM	2122	OD1	ASN	283	36.474	-12.369	35.175	1.00	61.22	BLGL
ATOM	2123	ND2	ASN	283	37.672	-13.200	33.461	1.00	58.97	BLGL
ATOM	2124	C	ASN	283	33.100	-13.246	32.382	1.00	45.60	BLGL
ATOM	2125	O	ASN	283	32.163	-13.532	33.138	1.00	44.14	BLGL
ATOM	2126	N	GLY	284	33.081	-13.507	31.080	1.00	44.05	BLGL
ATOM	2127	CA	GLY	284	31.927	-14.166	30.499	1.00	42.01	BLGL
ATOM	2128	C	GLY	284	30.920	-13.195	29.918	1.00	40.47	BLGL
ATOM	2129	O	GLY	284	30.072	-13.590	29.114	1.00	41.73	BLGL
ATOM	2130	N	GLN	285	30.997	-11.929	30.321	1.00	36.97	BLGL
ATOM	2131	CA	GLN	285	30.081	-10.934	29.794	1.00	32.62	BLGL
ATOM	2132	CB	GLN	285	29.904	-9.781	30.771	1.00	31.11	BLGL
ATOM	2133	CG	GLN	285	29.440	-10.187	32.149	1.00	29.26	BLGL
ATOM	2134	CD	GLN	285	29.234	-8.985	33.046	1.00	27.08	BLGL
ATOM	2135	OE1	GLN	285	29.922	-7.973	32.910	1.00	26.10	BLGL
ATOM	2136	NE2	GLN	285	28.296	-9.091	33.974	1.00	25.79	BLGL
ATOM	2137	C	GLN	285	30.634	-10.397	28.487	1.00	30.85	BLGL
ATOM	2138	O	GLN	285	31.844	-10.301	28.302	1.00	31.43	BLGL
ATOM	2139	N	THR	286	29.735	-10.047	27.581	1.00	29.00	BLGL
ATOM	2140	CA	THR	286	30.119	-9.516	26.292	1.00	26.23	BLGL
ATOM	2141	CB	THR	286	29.000	-9.741	25.280	1.00	26.60	BLGL
ATOM	2142	OG1	THR	286	28.755	-11.147	25.159	1.00	26.51	BLGL
ATOM	2143	CG2	THR	286	29.370	-9.150	23.928	1.00	26.18	BLGL
ATOM	2144	C	THR	286	30.401	-8.030	26.413	1.00	25.38	BLGL
ATOM	2145	O	THR	286	29.553	-7.266	26.859	1.00	25.73	BLGL
ATOM	2146	N	LEU	287	31.596	-7.619	26.016	1.00	25.58	BLGL
ATOM	2147	CA	LEU	287	31.957	-6.219	26.098	1.00	25.95	BLGL
ATOM	2148	CB	LEU	287	33.036	-6.034	27.159	1.00	23.53	BLGL
ATOM	2149	CG	LEU	287	32.593	-6.516	28.539	1.00	22.29	BLGL
ATOM	2150	CD1	LEU	287	33.742	-6.413	29.523	1.00	21.57	BLGL
ATOM	2151	CD2	LEU	287	31.409	-5.692	28.998	1.00	20.26	BLGL
ATOM	2152	C	LEU	287	32.446	-5.739	24.748	1.00	28.08	BLGL
ATOM	2153	O	LEU	287	33.648	-5.666	24.503	1.00	29.85	BLGL
ATOM	2154	N	ASN	288	31.508	-5.406	23.870	1.00	29.45	BLGL
ATOM	2155	CA	ASN	288	31.869	-4.949	22.537	1.00	31.56	BLGL
ATOM	2156	CB	ASN	288	30.641	-4.928	21.632	1.00	35.67	BLGL
ATOM	2157	CG	ASN	288	30.039	-6.306	21.456	1.00	41.56	BLGL
ATOM	2158	OD1	ASN	288	30.766	-7.298	21.320	1.00	42.80	BLGL
ATOM	2159	ND2	ASN	288	28.707	-6.380	21.449	1.00	43.66	BLGL
ATOM	2160	C	ASN	288	32.533	-3.590	22.523	1.00	30.88	BLGL
ATOM	2161	O	ASN	288	33.295	-3.281	21.615	1.00	32.37	BLGL
ATOM	2162	N	ASN	289	32.242	-2.767	23.520	1.00	30.69	BLGL
ATOM	2163	CA	ASN	289	32.849	-1.447	23.583	1.00	29.17	BLGL
ATOM	2164	CB	ASN	289	31.778	-0.364	23.737	1.00	29.80	BLGL
ATOM	2165	CG	ASN	289	31.108	-0.018	22.420	1.00	34.65	BLGL
ATOM	2166	OD1	ASN	289	31.733	0.562	21.529	1.00	36.80	BLGL
ATOM	2167	ND2	ASN	289	29.834	-0.382	22.285	1.00	34.27	BLGL
ATOM	2168	C	ASN	289	33.818	-1.386	24.746	1.00	28.28	BLGL
ATOM	2169	O	ASN	289	33.698	-2.144	25.718	1.00	26.00	BLGL
ATOM	2170	N	PRO	290	34.815	-0.497	24.654	1.00	26.69	BLGL
ATOM	2171	CD	PRO	290	35.116	0.459	23.576	1.00	25.39	BLGL
ATOM	2172	CA	PRO	290	35.783	-0.375	25.740	1.00	24.60	BLGL
ATOM	2173	CB	PRO	290	36.796	0.616	25.184	1.00	23.11	BLGL
ATOM	2174	CG	PRO	290	35.977	1.470	24.294	1.00	24.06	BLGL
ATOM	2175	C	PRO	290	35.098	0.132	27.006	1.00	25.03	BLGL
ATOM	2176	O	PRO	290	34.140	0.916	26.951	1.00	24.16	BLGL
ATOM	2177	N	VAL	291	35.582	-0.334	28.149	1.00	23.84	BLGL

Fig. 4 cont.

159/174

ATOM	2178	CA	VAL	291	35.019	0.083	29.420	1.00	21.28	BLGL
ATOM	2179	CB	VAL	291	35.340	-0.945	30.520	1.00	21.94	BLGL
ATOM	2180	CG1	VAL	291	34.752	-0.488	31.852	1.00	20.42	BLGL
ATOM	2181	CG2	VAL	291	34.775	-2.309	30.114	1.00	17.11	BLGL
ATOM	2182	C	VAL	291	35.607	1.448	29.760	1.00	20.16	BLGL
ATOM	2183	O	VAL	291	36.504	1.574	30.588	1.00	19.20	BLGL
ATOM	2184	N	THR	292	35.100	2.464	29.070	1.00	19.49	BLGL
ATOM	2185	CA	THR	292	35.532	3.842	29.250	1.00	18.74	BLGL
ATOM	2186	CB	THR	292	36.660	4.228	28.251	1.00	18.53	BLGL
ATOM	2187	OG1	THR	292	36.111	4.400	26.939	1.00	17.67	BLGL
ATOM	2188	CG2	THR	292	37.716	3.148	28.196	1.00	17.15	BLGL
ATOM	2189	C	THR	292	34.335	4.759	28.994	1.00	19.39	BLGL
ATOM	2190	O	THR	292	33.275	4.308	28.568	1.00	19.27	BLGL
ATOM	2191	N	VAL	293	34.514	6.048	29.252	1.00	20.06	BLGL
ATOM	2192	CA	VAL	293	33.446	7.005	29.039	1.00	20.55	BLGL
ATOM	2193	CB	VAL	293	33.865	8.406	29.544	1.00	20.16	BLGL
ATOM	2194	CG1	VAL	293	32.857	9.451	29.100	1.00	20.66	BLGL
ATOM	2195	CG2	VAL	293	33.936	8.390	31.074	1.00	16.78	BLGL
ATOM	2196	C	VAL	293	33.051	7.044	27.562	1.00	20.97	BLGL
ATOM	2197	O	VAL	293	31.864	7.124	27.234	1.00	21.53	BLGL
ATOM	2198	N	GLN	294	34.039	6.962	26.674	1.00	20.45	BLGL
ATOM	2199	CA	GLN	294	33.770	6.956	25.238	1.00	21.64	BLGL
ATOM	2200	CB	GLN	294	35.066	7.058	24.431	1.00	25.60	BLGL
ATOM	2201	CG	GLN	294	35.192	8.341	23.619	1.00	29.52	BLGL
ATOM	2202	CD	GLN	294	34.031	8.562	22.666	1.00	29.94	BLGL
ATOM	2203	OE1	GLN	294	33.739	9.696	22.296	1.00	34.05	BLGL
ATOM	2204	NE2	GLN	294	33.371	7.485	22.260	1.00	28.56	BLGL
ATOM	2205	C	GLN	294	33.058	5.672	24.834	1.00	22.39	BLGL
ATOM	2206	O	GLN	294	32.199	5.677	23.950	1.00	19.94	BLGL
ATOM	2207	N	GLY	295	33.444	4.566	25.468	1.00	22.59	BLGL
ATOM	2208	CA	GLY	295	32.814	3.295	25.173	1.00	20.59	BLGL
ATOM	2209	C	GLY	295	31.349	3.362	25.564	1.00	22.43	BLGL
ATOM	2210	O	GLY	295	30.464	3.047	24.767	1.00	23.22	BLGL
ATOM	2211	N	GLN	296	31.099	3.787	26.798	1.00	19.02	BLGL
ATOM	2212	CA	GLN	296	29.750	3.905	27.313	1.00	19.21	BLGL
ATOM	2213	CB	GLN	296	29.789	4.581	28.683	1.00	19.90	BLGL
ATOM	2214	CG	GLN	296	28.467	4.668	29.419	1.00	18.48	BLGL
ATOM	2215	CD	GLN	296	28.572	5.536	30.669	1.00	17.80	BLGL
ATOM	2216	OE1	GLN	296	29.027	6.679	30.595	1.00	16.03	BLGL
ATOM	2217	NE2	GLN	296	28.152	4.999	31.818	1.00	15.03	BLGL
ATOM	2218	C	GLN	296	28.906	4.719	26.336	1.00	19.79	BLGL
ATOM	2219	O	GLN	296	27.777	4.347	26.016	1.00	20.36	BLGL
ATOM	2220	N	ALA	297	29.458	5.825	25.851	1.00	18.99	BLGL
ATOM	2221	CA	ALA	297	28.733	6.669	24.905	1.00	18.45	BLGL
ATOM	2222	CB	ALA	297	29.546	7.916	24.578	1.00	14.36	BLGL
ATOM	2223	C	ALA	297	28.416	5.895	23.630	1.00	19.50	BLGL
ATOM	2224	O	ALA	297	27.301	5.978	23.104	1.00	20.34	BLGL
ATOM	2225	N	ASN	298	29.395	5.142	23.135	1.00	19.83	BLGL
ATOM	2226	CA	ASN	298	29.196	4.352	21.926	1.00	21.45	BLGL
ATOM	2227	CB	ASN	298	30.442	3.524	21.592	1.00	24.97	BLGL
ATOM	2228	CG	ASN	298	31.563	4.358	20.999	1.00	26.63	BLGL
ATOM	2229	OD1	ASN	298	31.329	5.440	20.459	1.00	25.65	BLGL
ATOM	2230	ND2	ASN	298	32.791	3.843	21.078	1.00	27.74	BLGL
ATOM	2231	C	ASN	298	28.027	3.405	22.133	1.00	21.39	BLGL
ATOM	2232	O	ASN	298	27.130	3.306	21.297	1.00	21.38	BLGL
ATOM	2233	N	ALA	299	28.061	2.713	23.266	1.00	19.25	BLGL
ATOM	2234	CA	ALA	299	27.038	1.754	23.633	1.00	17.97	BLGL
ATOM	2235	CB	ALA	299	27.294	1.264	25.030	1.00	16.35	BLGL
ATOM	2236	C	ALA	299	25.638	2.339	23.537	1.00	19.35	BLGL
ATOM	2237	O	ALA	299	24.763	1.771	22.881	1.00	17.73	BLGL
ATOM	2238	N	VAL	300	25.432	3.474	24.201	1.00	20.77	BLGL
ATOM	2239	CA	VAL	300	24.134	4.146	24.202	1.00	20.54	BLGL
ATOM	2240	CB	VAL	300	24.141	5.382	25.141	1.00	19.20	BLGL
ATOM	2241	CG1	VAL	300	22.786	6.081	25.108	1.00	16.54	BLGL
ATOM	2242	CG2	VAL	300	24.467	4.948	26.556	1.00	16.81	BLGL
ATOM	2243	C	VAL	300	23.761	4.597	22.795	1.00	20.62	BLGL

Fig. 4 cont.

160/174

ATOM	2244	O	VAL	300	22.643	4.383	22.332	1.00	22.02	BLGL
ATOM	2245	N	ARG	301	24.711	5.220	22.117	1.00	19.80	BLGL
ATOM	2246	CA	ARG	301	24.485	5.699	20.770	1.00	20.87	BLGL
ATOM	2247	CB	ARG	301	25.764	6.370	20.273	1.00	20.72	BLGL
ATOM	2248	CG	ARG	301	25.697	6.960	18.884	1.00	19.75	BLGL
ATOM	2249	CD	ARG	301	25.963	5.909	17.841	1.00	20.20	BLGL
ATOM	2250	NE	ARG	301	25.950	6.479	16.502	1.00	21.66	BLGL
ATOM	2251	CZ	ARG	301	25.770	5.763	15.400	1.00	21.05	BLGL
ATOM	2252	NH1	ARG	301	25.593	4.453	15.484	1.00	23.39	BLGL
ATOM	2253	NH2	ARG	301	25.741	6.359	14.223	1.00	19.98	BLGL
ATOM	2254	C	ARG	301	24.050	4.575	19.824	1.00	21.51	BLGL
ATOM	2255	O	ARG	301	23.190	4.774	18.967	1.00	23.05	BLGL
ATOM	2256	N	ASP	302	24.633	3.394	19.989	1.00	20.34	BLGL
ATOM	2257	CA	ASP	302	24.306	2.262	19.138	1.00	19.74	BLGL
ATOM	2258	CB	ASP	302	25.378	1.190	19.260	1.00	22.07	BLGL
ATOM	2259	CG	ASP	302	26.659	1.571	18.548	1.00	26.74	BLGL
ATOM	2260	OD1	ASP	302	27.647	0.818	18.676	1.00	31.70	BLGL
ATOM	2261	OD2	ASP	302	26.686	2.618	17.857	1.00	28.72	BLGL
ATOM	2262	C	ASP	302	22.947	1.648	19.408	1.00	20.74	BLGL
ATOM	2263	O	ASP	302	22.329	1.083	18.509	1.00	23.13	BLGL
ATOM	2264	N	VAL	303	22.482	1.740	20.644	1.00	18.00	BLGL
ATOM	2265	CA	VAL	303	21.182	1.189	20.971	1.00	18.00	BLGL
ATOM	2266	CB	VAL	303	20.971	1.110	22.503	1.00	17.67	BLGL
ATOM	2267	CG1	VAL	303	19.626	0.483	22.813	1.00	17.30	BLGL
ATOM	2268	CG2	VAL	303	22.075	0.299	23.132	1.00	20.13	BLGL
ATOM	2269	C	VAL	303	20.126	2.099	20.346	1.00	18.76	BLGL
ATOM	2270	O	VAL	303	19.099	1.638	19.854	1.00	16.54	BLGL
ATOM	2271	N	ILE	304	20.392	3.401	20.367	1.00	19.37	BLGL
ATOM	2272	CA	ILE	304	19.471	4.371	19.793	1.00	20.60	BLGL
ATOM	2273	CB	ILE	304	19.955	5.820	20.067	1.00	21.68	BLGL
ATOM	2274	CG2	ILE	304	19.113	6.835	19.293	1.00	19.25	BLGL
ATOM	2275	CG1	ILE	304	19.853	6.108	21.567	1.00	21.33	BLGL
ATOM	2276	CD1	ILE	304	20.334	7.482	21.961	1.00	21.10	BLGL
ATOM	2277	C	ILE	304	19.387	4.102	18.294	1.00	21.62	BLGL
ATOM	2278	O	ILE	304	18.316	4.130	17.695	1.00	22.05	BLGL
ATOM	2279	N	GLN	305	20.531	3.820	17.694	1.00	21.95	BLGL
ATOM	2280	CA	GLN	305	20.579	3.523	16.279	1.00	22.70	BLGL
ATOM	2281	CB	GLN	305	22.031	3.274	15.855	1.00	25.34	BLGL
ATOM	2282	CG	GLN	305	22.203	2.958	14.381	1.00	28.30	BLGL
ATOM	2283	CD	GLN	305	22.031	4.178	13.505	1.00	30.27	BLGL
ATOM	2284	OE1	GLN	305	22.915	5.030	13.430	1.00	30.12	BLGL
ATOM	2285	NE2	GLN	305	20.884	4.273	12.841	1.00	32.34	BLGL
ATOM	2286	C	GLN	305	19.736	2.278	16.006	1.00	22.92	BLGL
ATOM	2287	O	GLN	305	18.925	2.258	15.080	1.00	23.46	BLGL
ATOM	2288	N	ALA	306	19.931	1.247	16.831	1.00	22.84	BLGL
ATOM	2289	CA	ALA	306	19.221	-0.031	16.693	1.00	21.78	BLGL
ATOM	2290	CB	ALA	306	19.708	-1.019	17.743	1.00	18.27	BLGL
ATOM	2291	C	ALA	306	17.704	0.090	16.773	1.00	22.33	BLGL
ATOM	2292	O	ALA	306	16.987	-0.569	16.018	1.00	23.37	BLGL
ATOM	2293	N	VAL	307	17.219	0.919	17.691	1.00	20.00	BLGL
ATOM	2294	CA	VAL	307	15.788	1.112	17.844	1.00	20.55	BLGL
ATOM	2295	CB	VAL	307	15.450	1.823	19.169	1.00	20.50	BLGL
ATOM	2296	CG1	VAL	307	13.959	2.106	19.248	1.00	17.36	BLGL
ATOM	2297	CG2	VAL	307	15.878	0.960	20.337	1.00	19.55	BLGL
ATOM	2298	C	VAL	307	15.274	1.959	16.696	1.00	21.97	BLGL
ATOM	2299	O	VAL	307	14.164	1.750	16.195	1.00	22.69	BLGL
ATOM	2300	N	SER	308	16.097	2.916	16.283	1.00	21.64	BLGL
ATOM	2301	CA	SER	308	15.750	3.818	15.197	1.00	21.48	BLGL
ATOM	2302	CB	SER	308	16.809	4.916	15.073	1.00	22.23	BLGL
ATOM	2303	OG	SER	308	16.510	5.812	14.018	1.00	26.06	BLGL
ATOM	2304	C	SER	308	15.633	3.059	13.885	1.00	20.97	BLGL
ATOM	2305	O	SER	308	14.781	3.372	13.054	1.00	17.14	BLGL
ATOM	2306	N	ASP	309	16.490	2.057	13.709	1.00	21.61	BLGL
ATOM	2307	CA	ASP	309	16.480	1.252	12.494	1.00	23.50	BLGL
ATOM	2308	CB	ASP	309	17.698	0.332	12.434	1.00	25.27	BLGL
ATOM	2309	CG	ASP	309	18.971	1.069	12.064	1.00	29.05	BLGL

Fig. 4 cont.

161/174

ATOM	2310	OD1	ASP	309	18.874	2.130	11.401	1.00	26.38	BLGL
ATOM	2311	OD2	ASP	309	20.066	0.576	12.423	1.00	30.01	BLGL
ATOM	2312	C	ASP	309	15.225	0.412	12.339	1.00	24.33	BLGL
ATOM	2313	O	ASP	309	14.972	-0.124	11.265	1.00	26.71	BLGL
ATOM	2314	N	VAL	310	14.450	0.280	13.409	1.00	24.29	BLGL
ATOM	2315	CA	VAL	310	13.219	-0.490	13.344	1.00	23.62	BLGL
ATOM	2316	CB	VAL	310	12.582	-0.647	14.730	1.00	23.06	BLGL
ATOM	2317	CG1	VAL	310	11.232	-1.336	14.606	1.00	21.23	BLGL
ATOM	2318	CG2	VAL	310	13.509	-1.443	15.632	1.00	21.91	BLGL
ATOM	2319	C	VAL	310	12.248	0.247	12.440	1.00	23.63	BLGL
ATOM	2320	O	VAL	310	11.360	-0.352	11.834	1.00	25.38	BLGL
ATOM	2321	N	GLY	311	12.438	1.555	12.343	1.00	23.71	BLGL
ATOM	2322	CA	GLY	311	11.573	2.373	11.519	1.00	23.98	BLGL
ATOM	2323	C	GLY	311	10.628	3.201	12.366	1.00	27.47	BLGL
ATOM	2324	O	GLY	311	10.919	3.565	13.514	1.00	28.40	BLGL
ATOM	2325	N	GLU	312	9.469	3.474	11.783	1.00	27.49	BLGL
ATOM	2326	CA	GLU	312	8.438	4.262	12.419	1.00	27.36	BLGL
ATOM	2327	CB	GLU	312	7.210	4.291	11.514	1.00	32.86	BLGL
ATOM	2328	CG	GLU	312	6.318	5.503	11.705	1.00	43.92	BLGL
ATOM	2329	CD	GLU	312	4.950	5.314	11.071	1.00	50.44	BLGL
ATOM	2330	OE1	GLU	312	4.889	4.793	9.930	1.00	51.60	BLGL
ATOM	2331	OE2	GLU	312	3.939	5.694	11.713	1.00	53.86	BLGL
ATOM	2332	C	GLU	312	8.039	3.746	13.805	1.00	25.87	BLGL
ATOM	2333	O	GLU	312	7.717	4.537	14.683	1.00	27.15	BLGL
ATOM	2334	N	ALA	313	8.067	2.431	14.003	1.00	22.50	BLGL
ATOM	2335	CA	ALA	313	7.671	1.814	15.273	1.00	19.75	BLGL
ATOM	2336	CB	ALA	313	7.480	0.315	15.077	1.00	19.28	BLGL
ATOM	2337	C	ALA	313	8.608	2.054	16.454	1.00	18.86	BLGL
ATOM	2338	O	ALA	313	8.167	2.049	17.602	1.00	15.56	BLGL
ATOM	2339	N	GLY	314	9.897	2.238	16.173	1.00	19.40	BLGL
ATOM	2340	CA	GLY	314	10.868	2.476	17.232	1.00	21.12	BLGL
ATOM	2341	C	GLY	314	10.667	3.878	17.787	1.00	22.30	BLGL
ATOM	2342	O	GLY	314	11.016	4.865	17.135	1.00	23.19	BLGL
ATOM	2343	N	ILE	315	10.122	3.973	18.997	1.00	19.98	BLGL
ATOM	2344	CA	ILE	315	9.841	5.267	19.580	1.00	18.06	BLGL
ATOM	2345	CB	ILE	315	8.457	5.265	20.248	1.00	17.92	BLGL
ATOM	2346	CG2	ILE	315	7.402	4.928	19.221	1.00	16.03	BLGL
ATOM	2347	CG1	ILE	315	8.417	4.242	21.378	1.00	17.81	BLGL
ATOM	2348	CD1	ILE	315	7.113	4.236	22.116	1.00	16.57	BLGL
ATOM	2349	C	ILE	315	10.852	5.818	20.563	1.00	18.49	BLGL
ATOM	2350	O	ILE	315	10.851	7.012	20.836	1.00	19.85	BLGL
ATOM	2351	N	GLY	316	11.719	4.974	21.101	1.00	18.64	BLGL
ATOM	2352	CA	GLY	316	12.692	5.492	22.042	1.00	17.78	BLGL
ATOM	2353	C	GLY	316	13.562	4.510	22.803	1.00	18.38	BLGL
ATOM	2354	O	GLY	316	13.500	3.290	22.618	1.00	17.99	BLGL
ATOM	2355	N	VAL	317	14.381	5.081	23.680	1.00	17.69	BLGL
ATOM	2356	CA	VAL	317	15.312	4.328	24.512	1.00	17.45	BLGL
ATOM	2357	CB	VAL	317	16.727	4.367	23.916	1.00	17.12	BLGL
ATOM	2358	CG1	VAL	317	17.710	3.738	24.882	1.00	16.69	BLGL
ATOM	2359	CG2	VAL	317	16.753	3.642	22.586	1.00	16.13	BLGL
ATOM	2360	C	VAL	317	15.385	4.902	25.921	1.00	17.08	BLGL
ATOM	2361	O	VAL	317	15.386	6.116	26.101	1.00	19.09	BLGL
ATOM	2362	N	PHE	318	15.441	4.032	26.920	1.00	17.11	BLGL
ATOM	2363	CA	PHE	318	15.547	4.488	28.298	1.00	16.85	BLGL
ATOM	2364	CB	PHE	318	14.389	3.976	29.146	1.00	17.66	BLGL
ATOM	2365	CG	PHE	318	13.154	4.821	29.068	1.00	19.59	BLGL
ATOM	2366	CD1	PHE	318	12.208	4.615	28.063	1.00	17.88	BLGL
ATOM	2367	CD2	PHE	318	12.922	5.811	30.017	1.00	18.14	BLGL
ATOM	2368	CE1	PHE	318	11.041	5.383	28.007	1.00	15.40	BLGL
ATOM	2369	CE2	PHE	318	11.760	6.585	29.968	1.00	20.01	BLGL
ATOM	2370	CZ	PHE	318	10.815	6.367	28.960	1.00	16.53	BLGL
ATOM	2371	C	PHE	318	16.839	3.996	28.914	1.00	17.63	BLGL
ATOM	2372	O	PHE	318	17.132	2.802	28.878	1.00	19.56	BLGL
ATOM	2373	N	TYR	319	17.619	4.914	29.471	1.00	17.12	BLGL
ATOM	2374	CA	TYR	319	18.859	4.531	30.127	1.00	17.31	BLGL
ATOM	2375	CB	TYR	319	19.876	5.676	30.103	1.00	15.56	BLGL

Fig. 4 cont.

162/174

ATOM	2376	CG	TYR	319	21.255	5.211	30.495	1.00	17.60	BLGL
ATOM	2377	CD1	TYR	319	22.257	5.060	29.541	1.00	16.51	BLGL
ATOM	2378	CE1	TYR	319	23.503	4.568	29.886	1.00	17.94	BLGL
ATOM	2379	CD2	TYR	319	21.541	4.860	31.815	1.00	17.35	BLGL
ATOM	2380	CE2	TYR	319	22.781	4.366	32.174	1.00	18.20	BLGL
ATOM	2381	CZ	TYR	319	23.761	4.220	31.207	1.00	18.82	BLGL
ATOM	2382	OH	TYR	319	24.993	3.717	31.560	1.00	17.43	BLGL
ATOM	2383	C	TYR	319	18.465	4.214	31.568	1.00	15.84	BLGL
ATOM	2384	O	TYR	319	17.852	5.040	32.231	1.00	17.43	BLGL
ATOM	2385	N	TRP	320	18.811	3.024	32.050	1.00	15.86	BLGL
ATOM	2386	CA	TRP	320	18.448	2.622	33.408	1.00	14.37	BLGL
ATOM	2387	CB	TRP	320	18.286	1.099	33.489	1.00	13.03	BLGL
ATOM	2388	CG	TRP	320	17.673	0.644	34.786	1.00	13.67	BLGL
ATOM	2389	CD2	TRP	320	18.348	-0.001	35.873	1.00	13.63	BLGL
ATOM	2390	CE2	TRP	320	17.408	-0.123	36.930	1.00	16.14	BLGL
ATOM	2391	CE3	TRP	320	19.654	-0.480	36.063	1.00	12.95	BLGL
ATOM	2392	CD1	TRP	320	16.388	0.865	35.210	1.00	10.20	BLGL
ATOM	2393	NE1	TRP	320	16.225	0.413	36.491	1.00	11.94	BLGL
ATOM	2394	CZ2	TRP	320	17.736	-0.706	38.171	1.00	14.00	BLGL
ATOM	2395	CZ3	TRP	320	19.984	-1.057	37.292	1.00	14.81	BLGL
ATOM	2396	CH2	TRP	320	19.023	-1.163	38.332	1.00	15.77	BLGL
ATOM	2397	C	TRP	320	19.428	3.071	34.484	1.00	14.79	BLGL
ATOM	2398	O	TRP	320	20.624	2.786	34.403	1.00	13.40	BLGL
ATOM	2399	N	GLU	321	18.898	3.770	35.487	1.00	14.52	BLGL
ATOM	2400	CA	GLU	321	19.671	4.261	36.630	1.00	16.07	BLGL
ATOM	2401	CB	GLU	321	19.878	3.117	37.634	1.00	16.50	BLGL
ATOM	2402	CG	GLU	321	18.605	2.675	38.362	1.00	15.22	BLGL
ATOM	2403	CD	GLU	321	18.179	3.653	39.439	1.00	15.33	BLGL
ATOM	2404	OE1	GLU	321	17.190	3.375	40.156	1.00	13.74	BLGL
ATOM	2405	OE2	GLU	321	18.840	4.703	39.573	1.00	17.28	BLGL
ATOM	2406	C	GLU	321	21.015	4.890	36.267	1.00	16.30	BLGL
ATOM	2407	O	GLU	321	22.078	4.321	36.533	1.00	19.88	BLGL
ATOM	2408	N	PRO	322	20.985	6.085	35.664	1.00	13.95	BLGL
ATOM	2409	CD	PRO	322	19.800	6.807	35.166	1.00	13.71	BLGL
ATOM	2410	CA	PRO	322	22.207	6.776	35.269	1.00	13.32	BLGL
ATOM	2411	CB	PRO	322	21.727	7.665	34.136	1.00	13.68	BLGL
ATOM	2412	CG	PRO	322	20.397	8.108	34.648	1.00	11.78	BLGL
ATOM	2413	C	PRO	322	22.826	7.588	36.391	1.00	14.16	BLGL
ATOM	2414	O	PRO	322	23.849	8.235	36.191	1.00	17.47	BLGL
ATOM	2415	N	ALA	323	22.215	7.564	37.568	1.00	12.38	BLGL
ATOM	2416	CA	ALA	323	22.742	8.345	38.676	1.00	11.98	BLGL
ATOM	2417	CB	ALA	323	21.979	9.660	38.786	1.00	8.04	BLGL
ATOM	2418	C	ALA	323	22.736	7.619	40.012	1.00	12.24	BLGL
ATOM	2419	O	ALA	323	22.580	8.245	41.060	1.00	10.55	BLGL
ATOM	2420	N	TRP	324	22.910	6.300	39.980	1.00	14.35	BLGL
ATOM	2421	CA	TRP	324	22.933	5.515	41.215	1.00	15.62	BLGL
ATOM	2422	CB	TRP	324	22.422	4.094	40.973	1.00	15.22	BLGL
ATOM	2423	CG	TRP	324	21.843	3.473	42.201	1.00	16.28	BLGL
ATOM	2424	CD2	TRP	324	20.827	2.465	42.257	1.00	18.02	BLGL
ATOM	2425	CE2	TRP	324	20.595	2.181	43.622	1.00	18.70	BLGL
ATOM	2426	CE3	TRP	324	20.086	1.776	41.287	1.00	16.37	BLGL
ATOM	2427	CD1	TRP	324	22.178	3.748	43.494	1.00	17.37	BLGL
ATOM	2428	NE1	TRP	324	21.434	2.978	44.354	1.00	19.41	BLGL
ATOM	2429	CZ2	TRP	324	19.655	1.231	44.044	1.00	19.78	BLGL
ATOM	2430	CZ3	TRP	324	19.154	0.834	41.703	1.00	16.22	BLGL
ATOM	2431	CH2	TRP	324	18.944	0.570	43.071	1.00	18.68	BLGL
ATOM	2432	C	TRP	324	24.378	5.467	41.707	1.00	16.46	BLGL
ATOM	2433	O	TRP	324	24.986	4.405	41.823	1.00	13.25	BLGL
ATOM	2434	N	ILE	325	24.916	6.645	41.994	1.00	18.45	BLGL
ATOM	2435	CA	ILE	325	26.284	6.781	42.453	1.00	20.02	BLGL
ATOM	2436	CB	ILE	325	26.796	8.203	42.189	1.00	19.48	BLGL
ATOM	2437	CG2	ILE	325	26.652	8.518	40.706	1.00	18.33	BLGL
ATOM	2438	CG1	ILE	325	26.021	9.212	43.032	1.00	17.13	BLGL
ATOM	2439	CD1	ILE	325	26.493	10.630	42.843	1.00	14.92	BLGL
ATOM	2440	C	ILE	325	26.448	6.429	43.926	1.00	21.37	BLGL
ATOM	2441	O	ILE	325	25.473	6.373	44.675	1.00	20.25	BLGL

Fig. 4 cont.

163/174

ATOM	2442	N	PRO	326	27.697	6.188	44.358	1.00	22.85	BLGL
ATOM	2443	CD	PRO	326	28.935	6.258	43.557	1.00	21.92	BLGL
ATOM	2444	CA	PRO	326	27.988	5.827	45.750	1.00	23.11	BLGL
ATOM	2445	CB	PRO	326	29.488	5.535	45.724	1.00	21.79	BLGL
ATOM	2446	CG	PRO	326	29.992	6.401	44.613	1.00	23.00	BLGL
ATOM	2447	C	PRO	326	27.604	6.851	46.806	1.00	22.87	BLGL
ATOM	2448	O	PRO	326	27.666	8.055	46.564	1.00	22.51	BLGL
ATOM	2449	N	VAL	327	27.189	6.360	47.975	1.00	22.78	BLGL
ATOM	2450	CA	VAL	327	26.812	7.236	49.083	1.00	24.67	BLGL
ATOM	2451	CB	VAL	327	25.918	6.519	50.133	1.00	26.26	BLGL
ATOM	2452	CG1	VAL	327	24.651	5.996	49.478	1.00	27.07	BLGL
ATOM	2453	CG2	VAL	327	26.691	5.393	50.805	1.00	23.81	BLGL
ATOM	2454	C	VAL	327	28.072	7.697	49.798	1.00	25.35	BLGL
ATOM	2455	O	VAL	327	28.036	8.643	50.582	1.00	25.02	BLGL
ATOM	2456	N	GLY	328	29.176	7.007	49.516	1.00	26.68	BLGL
ATOM	2457	CA	GLY	328	30.459	7.315	50.120	1.00	27.54	BLGL
ATOM	2458	C	GLY	328	31.540	6.412	49.551	1.00	29.31	BLGL
ATOM	2459	O	GLY	328	31.219	5.392	48.938	1.00	29.16	BLGL
ATOM	2460	N	PRO	329	32.830	6.751	49.743	1.00	30.18	BLGL
ATOM	2461	CD	PRO	329	33.277	7.948	50.477	1.00	30.73	BLGL
ATOM	2462	CA	PRO	329	33.989	5.994	49.255	1.00	30.09	BLGL
ATOM	2463	CB	PRO	329	35.166	6.722	49.891	1.00	30.88	BLGL
ATOM	2464	CG	PRO	329	34.685	8.128	49.959	1.00	31.43	BLGL
ATOM	2465	C	PRO	329	33.966	4.520	49.614	1.00	29.93	BLGL
ATOM	2466	O	PRO	329	33.416	4.132	50.639	1.00	30.03	BLGL
ATOM	2467	N	ALA	330	34.582	3.706	48.768	1.00	29.86	BLGL
ATOM	2468	CA	ALA	330	34.614	2.272	48.987	1.00	32.93	BLGL
ATOM	2469	CB	ALA	330	35.343	1.585	47.833	1.00	31.50	BLGL
ATOM	2470	C	ALA	330	35.265	1.911	50.313	1.00	35.35	BLGL
ATOM	2471	O	ALA	330	34.894	0.916	50.940	1.00	35.56	BLGL
ATOM	2472	N	HIS	331	36.228	2.721	50.749	1.00	37.94	BLGL
ATOM	2473	CA	HIS	331	36.922	2.440	52.001	1.00	40.82	BLGL
ATOM	2474	CB	HIS	331	38.282	3.143	52.049	1.00	41.19	BLGL
ATOM	2475	CG	HIS	331	38.195	4.632	52.171	1.00	42.83	BLGL
ATOM	2476	CD2	HIS	331	38.170	5.436	53.261	1.00	42.69	BLGL
ATOM	2477	ND1	HIS	331	38.130	5.469	51.077	1.00	43.41	BLGL
ATOM	2478	CE1	HIS	331	38.073	6.725	51.488	1.00	42.26	BLGL
ATOM	2479	NE2	HIS	331	38.096	6.732	52.809	1.00	42.43	BLGL
ATOM	2480	C	HIS	331	36.130	2.805	53.254	1.00	42.32	BLGL
ATOM	2481	O	HIS	331	36.674	2.788	54.354	1.00	43.73	BLGL
ATOM	2482	N	ARG	332	34.857	3.149	53.105	1.00	43.54	BLGL
ATOM	2483	CA	ARG	332	34.041	3.478	54.264	1.00	43.67	BLGL
ATOM	2484	CB	ARG	332	33.446	4.878	54.152	1.00	46.16	BLGL
ATOM	2485	CG	ARG	332	34.428	6.031	54.232	1.00	51.93	BLGL
ATOM	2486	CD	ARG	332	33.693	7.258	54.754	1.00	55.92	BLGL
ATOM	2487	NE	ARG	332	32.323	7.299	54.240	1.00	62.04	BLGL
ATOM	2488	CZ	ARG	332	31.376	8.138	54.664	1.00	64.85	BLGL
ATOM	2489	NH1	ARG	332	30.154	8.095	54.132	1.00	64.81	BLGL
ATOM	2490	NH2	ARG	332	31.640	9.023	55.622	1.00	65.83	BLGL
ATOM	2491	C	ARG	332	32.899	2.482	54.368	1.00	43.46	BLGL
ATOM	2492	O	ARG	332	31.882	2.766	54.999	1.00	42.10	BLGL
ATOM	2493	N	LEU	333	33.077	1.318	53.748	1.00	43.54	BLGL
ATOM	2494	CA	LEU	333	32.058	0.277	53.739	1.00	44.90	BLGL
ATOM	2495	CB	LEU	333	32.700	-1.104	53.605	1.00	44.71	BLGL
ATOM	2496	CG	LEU	333	32.076	-1.981	52.511	1.00	47.14	BLGL
ATOM	2497	CD1	LEU	333	32.702	-3.370	52.561	1.00	47.53	BLGL
ATOM	2498	CD2	LEU	333	30.561	-2.068	52.691	1.00	46.62	BLGL
ATOM	2499	C	LEU	333	31.154	0.282	54.959	1.00	46.15	BLGL
ATOM	2500	O	LEU	333	29.931	0.378	54.833	1.00	47.20	BLGL
ATOM	2501	N	GLU	334	31.755	0.183	56.139	1.00	47.86	BLGL
ATOM	2502	CA	GLU	334	30.989	0.159	57.384	1.00	48.83	BLGL
ATOM	2503	CB	GLU	334	31.934	0.012	58.584	1.00	51.92	BLGL
ATOM	2504	CG	GLU	334	32.639	-1.345	58.641	1.00	58.71	BLGL
ATOM	2505	CD	GLU	334	31.663	-2.521	58.588	1.00	61.85	BLGL
ATOM	2506	OE1	GLU	334	30.824	-2.642	59.510	1.00	62.23	BLGL
ATOM	2507	OE2	GLU	334	31.734	-3.319	57.622	1.00	63.86	BLGL

Fig. 4 cont.

164/174

ATOM	2508	C	GLU	334	30.083	1.374	57.584	1.00	46.21	BLGL
ATOM	2509	O	GLU	334	28.939	1.246	58.030	1.00	45.37	BLGL
ATOM	2510	N	LYS	335	30.583	2.552	57.251	1.00	44.31	BLGL
ATOM	2511	CA	LYS	335	29.783	3.752	57.415	1.00	43.94	BLGL
ATOM	2512	CB	LYS	335	30.687	4.980	57.370	1.00	48.35	BLGL
ATOM	2513	CG	LYS	335	30.158	6.168	58.168	1.00	51.85	BLGL
ATOM	2514	CD	LYS	335	29.958	5.809	59.653	1.00	56.01	BLGL
ATOM	2515	CE	LYS	335	31.207	5.161	60.270	1.00	57.13	BLGL
ATOM	2516	NZ	LYS	335	32.440	5.982	60.078	1.00	58.45	BLGL
ATOM	2517	C	LYS	335	28.717	3.843	56.318	1.00	42.75	BLGL
ATOM	2518	O	LYS	335	27.664	4.458	56.508	1.00	40.92	BLGL
ATOM	2519	N	ASN	336	28.999	3.229	55.169	1.00	40.89	BLGL
ATOM	2520	CA	ASN	336	28.068	3.233	54.050	1.00	36.25	BLGL
ATOM	2521	CB	ASN	336	28.758	2.764	52.774	1.00	34.22	BLGL
ATOM	2522	CG	ASN	336	29.754	3.770	52.252	1.00	33.73	BLGL
ATOM	2523	OD1	ASN	336	29.698	4.949	52.593	1.00	33.95	BLGL
ATOM	2524	ND2	ASN	336	30.661	3.316	51.401	1.00	34.13	BLGL
ATOM	2525	C	ASN	336	26.883	2.332	54.333	1.00	35.83	BLGL
ATOM	2526	O	ASN	336	25.742	2.702	54.050	1.00	35.07	BLGL
ATOM	2527	N	LYS	337	27.161	1.147	54.882	1.00	34.86	BLGL
ATOM	2528	CA	LYS	337	26.116	0.171	55.209	1.00	33.18	BLGL
ATOM	2529	CB	LYS	337	26.712	-1.023	55.953	1.00	31.58	BLGL
ATOM	2530	CG	LYS	337	27.594	-1.901	55.095	1.00	32.46	BLGL
ATOM	2531	CD	LYS	337	28.112	-3.095	55.881	1.00	33.49	BLGL
ATOM	2532	CE	LYS	337	28.869	-4.046	54.967	1.00	38.20	BLGL
ATOM	2533	NZ	LYS	337	29.366	-5.262	55.679	1.00	41.08	BLGL
ATOM	2534	C	LYS	337	25.042	0.812	56.069	1.00	32.37	BLGL
ATOM	2535	O	LYS	337	23.866	0.477	55.971	1.00	30.10	BLGL
ATOM	2536	N	ALA	338	25.466	1.738	56.917	1.00	32.27	BLGL
ATOM	2537	CA	ALA	338	24.543	2.434	57.793	1.00	32.10	BLGL
ATOM	2538	CB	ALA	338	25.313	3.383	58.712	1.00	30.46	BLGL
ATOM	2539	C	ALA	338	23.533	3.211	56.951	1.00	31.53	BLGL
ATOM	2540	O	ALA	338	22.332	3.174	57.217	1.00	32.87	BLGL
ATOM	2541	N	LEU	339	24.025	3.915	55.937	1.00	29.75	BLGL
ATOM	2542	CA	LEU	339	23.165	4.703	55.064	1.00	28.75	BLGL
ATOM	2543	CB	LEU	339	24.019	5.580	54.149	1.00	29.58	BLGL
ATOM	2544	CG	LEU	339	24.839	6.671	54.842	1.00	29.29	BLGL
ATOM	2545	CD1	LEU	339	25.763	7.358	53.858	1.00	30.28	BLGL
ATOM	2546	CD2	LEU	339	23.889	7.674	55.457	1.00	30.12	BLGL
ATOM	2547	C	LEU	339	22.246	3.824	54.217	1.00	28.58	BLGL
ATOM	2548	O	LEU	339	21.035	4.049	54.154	1.00	28.13	BLGL
ATOM	2549	N	TRP	340	22.828	2.828	53.557	1.00	27.39	BLGL
ATOM	2550	CA	TRP	340	22.052	1.925	52.719	1.00	26.49	BLGL
ATOM	2551	CB	TRP	340	22.900	0.746	52.236	1.00	23.72	BLGL
ATOM	2552	CG	TRP	340	24.091	1.114	51.444	1.00	22.86	BLGL
ATOM	2553	CD2	TRP	340	25.305	0.366	51.336	1.00	23.48	BLGL
ATOM	2554	CE2	TRP	340	26.154	1.077	50.458	1.00	23.45	BLGL
ATOM	2555	CE3	TRP	340	25.760	-0.839	51.895	1.00	23.20	BLGL
ATOM	2556	CD1	TRP	340	24.243	2.214	50.651	1.00	22.87	BLGL
ATOM	2557	NE1	TRP	340	25.480	2.200	50.056	1.00	22.68	BLGL
ATOM	2558	CZ2	TRP	340	27.437	0.626	50.123	1.00	23.93	BLGL
ATOM	2559	CZ3	TRP	340	27.036	-1.288	51.561	1.00	24.91	BLGL
ATOM	2560	CH2	TRP	340	27.859	-0.553	50.682	1.00	23.29	BLGL
ATOM	2561	C	TRP	340	20.891	1.359	53.505	1.00	26.35	BLGL
ATOM	2562	O	TRP	340	19.777	1.252	53.005	1.00	26.95	BLGL
ATOM	2563	N	GLU	341	21.179	0.990	54.743	1.00	27.03	BLGL
ATOM	2564	CA	GLU	341	20.206	0.383	55.629	1.00	27.61	BLGL
ATOM	2565	CB	GLU	341	20.939	-0.239	56.818	1.00	29.81	BLGL
ATOM	2566	CG	GLU	341	20.338	-1.534	57.345	1.00	32.17	BLGL
ATOM	2567	CD	GLU	341	20.490	-2.693	56.384	1.00	34.50	BLGL
ATOM	2568	OE1	GLU	341	20.087	-3.811	56.756	1.00	38.21	BLGL
ATOM	2569	OE2	GLU	341	21.003	-2.503	55.261	1.00	35.23	BLGL
ATOM	2570	C	GLU	341	19.150	1.366	56.112	1.00	27.16	BLGL
ATOM	2571	O	GLU	341	17.967	1.044	56.169	1.00	27.02	BLGL
ATOM	2572	N	THR	342	19.569	2.572	56.452	1.00	27.11	BLGL
ATOM	2573	CA	THR	342	18.624	3.562	56.940	1.00	27.99	BLGL

Fig. 4 cont.

165/174

ATOM	2574	CB	THR	342	19.356	4.706	57.658	1.00	27.99	BLGL
ATOM	2575	OG1	THR	342	20.097	4.174	58.759	1.00	29.52	BLGL
ATOM	2576	CG2	THR	342	18.365	5.731	58.173	1.00	28.27	BLGL
ATOM	2577	C	THR	342	17.732	4.169	55.860	1.00	27.72	BLGL
ATOM	2578	O	THR	342	16.527	4.283	56.047	1.00	27.61	BLGL
ATOM	2579	N	TYR	343	18.319	4.554	54.732	1.00	28.64	BLGL
ATOM	2580	CA	TYR	343	17.544	5.185	53.675	1.00	29.90	BLGL
ATOM	2581	CB	TYR	343	18.260	6.448	53.209	1.00	31.83	BLGL
ATOM	2582	CG	TYR	343	18.573	7.381	54.350	1.00	35.78	BLGL
ATOM	2583	CD1	TYR	343	19.798	7.313	55.013	1.00	36.95	BLGL
ATOM	2584	CE1	TYR	343	20.078	8.151	56.085	1.00	38.42	BLGL
ATOM	2585	CD2	TYR	343	17.631	8.313	54.792	1.00	35.14	BLGL
ATOM	2586	CE2	TYR	343	17.901	9.153	55.864	1.00	36.75	BLGL
ATOM	2587	CZ	TYR	343	19.128	9.067	56.503	1.00	38.36	BLGL
ATOM	2588	OH	TYR	343	19.417	9.904	57.554	1.00	40.88	BLGL
ATOM	2589	C	TYR	343	17.202	4.327	52.469	1.00	28.69	BLGL
ATOM	2590	O	TYR	343	16.524	4.788	51.554	1.00	28.30	BLGL
ATOM	2591	N	GLY	344	17.652	3.081	52.470	1.00	28.37	BLGL
ATOM	2592	CA	GLY	344	17.375	2.204	51.347	1.00	29.03	BLGL
ATOM	2593	C	GLY	344	18.001	2.730	50.068	1.00	28.56	BLGL
ATOM	2594	O	GLY	344	17.425	2.603	48.987	1.00	27.04	BLGL
ATOM	2595	N	SER	345	19.187	3.320	50.199	1.00	27.20	BLGL
ATOM	2596	CA	SER	345	19.903	3.888	49.067	1.00	25.65	BLGL
ATOM	2597	CB	SER	345	20.754	5.061	49.530	1.00	25.43	BLGL
ATOM	2598	OG	SER	345	21.600	4.654	50.582	1.00	31.71	BLGL
ATOM	2599	C	SER	345	20.780	2.853	48.380	1.00	25.28	BLGL
ATOM	2600	O	SER	345	21.554	3.183	47.479	1.00	24.47	BLGL
ATOM	2601	N	GLY	346	20.662	1.604	48.823	1.00	24.37	BLGL
ATOM	2602	CA	GLY	346	21.414	0.518	48.220	1.00	21.46	BLGL
ATOM	2603	C	GLY	346	20.430	-0.252	47.360	1.00	20.92	BLGL
ATOM	2604	O	GLY	346	19.286	0.183	47.216	1.00	21.35	BLGL
ATOM	2605	N	TRP	347	20.834	-1.385	46.795	1.00	18.57	BLGL
ATOM	2606	CA	TRP	347	19.915	-2.145	45.959	1.00	18.47	BLGL
ATOM	2607	CB	TRP	347	20.677	-3.115	45.057	1.00	19.55	BLGL
ATOM	2608	CG	TRP	347	20.976	-4.426	45.700	1.00	24.39	BLGL
ATOM	2609	CD2	TRP	347	20.205	-5.626	45.576	1.00	26.03	BLGL
ATOM	2610	CE2	TRP	347	20.843	-6.616	46.361	1.00	27.34	BLGL
ATOM	2611	CE3	TRP	347	19.035	-5.963	44.878	1.00	25.88	BLGL
ATOM	2612	CD1	TRP	347	22.023	-4.725	46.533	1.00	24.43	BLGL
ATOM	2613	NE1	TRP	347	21.950	-6.039	46.931	1.00	24.87	BLGL
ATOM	2614	CZ2	TRP	347	20.344	-7.926	46.467	1.00	27.61	BLGL
ATOM	2615	CZ3	TRP	347	18.541	-7.268	44.982	1.00	26.42	BLGL
ATOM	2616	CH2	TRP	347	19.195	-8.229	45.770	1.00	25.85	BLGL
ATOM	2617	C	TRP	347	18.910	-2.916	46.807	1.00	17.94	BLGL
ATOM	2618	O	TRP	347	17.820	-3.255	46.347	1.00	16.07	BLGL
ATOM	2619	N	ALA	348	19.296	-3.197	48.047	1.00	19.28	BLGL
ATOM	2620	CA	ALA	348	18.444	-3.918	48.984	1.00	21.94	BLGL
ATOM	2621	CB	ALA	348	18.387	-5.394	48.607	1.00	20.51	BLGL
ATOM	2622	C	ALA	348	18.948	-3.767	50.422	1.00	24.22	BLGL
ATOM	2623	O	ALA	348	20.138	-3.549	50.659	1.00	25.24	BLGL
ATOM	2624	N	THR	349	18.030	-3.870	51.379	1.00	25.44	BLGL
ATOM	2625	CA	THR	349	18.378	-3.774	52.789	1.00	25.50	BLGL
ATOM	2626	CB	THR	349	17.509	-2.738	53.553	1.00	26.44	BLGL
ATOM	2627	OG1	THR	349	16.167	-3.228	53.679	1.00	25.28	BLGL
ATOM	2628	CG2	THR	349	17.500	-1.400	52.823	1.00	24.16	BLGL
ATOM	2629	C	THR	349	18.102	-5.139	53.383	1.00	26.30	BLGL
ATOM	2630	O	THR	349	17.382	-5.942	52.791	1.00	26.26	BLGL
ATOM	2631	N	SER	350	18.671	-5.403	54.551	1.00	27.06	BLGL
ATOM	2632	CA	SER	350	18.463	-6.685	55.208	1.00	26.38	BLGL
ATOM	2633	CB	SER	350	19.252	-6.738	56.514	1.00	23.71	BLGL
ATOM	2634	OG	SER	350	18.812	-5.726	57.400	1.00	21.01	BLGL
ATOM	2635	C	SER	350	16.975	-6.911	55.490	1.00	26.83	BLGL
ATOM	2636	O	SER	350	16.509	-8.046	55.520	1.00	26.17	BLGL
ATOM	2637	N	TYR	351	16.225	-5.830	55.683	1.00	28.04	BLGL
ATOM	2638	CA	TYR	351	14.796	-5.946	55.965	1.00	30.41	BLGL
ATOM	2639	CB	TYR	351	14.208	-4.566	56.244	1.00	32.17	BLGL

Fig. 4 cont.

166/174

ATOM	2640	CG	TYR	351	14.911	-3.829	57.352	1.00	33.63	BLGL
ATOM	2641	CD1	TYR	351	15.961	-2.951	57.083	1.00	35.43	BLGL
ATOM	2642	CE1	TYR	351	16.623	-2.279	58.114	1.00	35.75	BLGL
ATOM	2643	CD2	TYR	351	14.539	-4.020	58.677	1.00	35.69	BLGL
ATOM	2644	CE2	TYR	351	15.193	-3.355	59.717	1.00	36.21	BLGL
ATOM	2645	CZ	TYR	351	16.231	-2.488	59.427	1.00	35.60	BLGL
ATOM	2646	OH	TYR	351	16.865	-1.828	60.451	1.00	36.59	BLGL
ATOM	2647	C	TYR	351	14.012	-6.626	54.836	1.00	30.90	BLGL
ATOM	2648	O	TYR	351	12.921	-7.159	55.055	1.00	30.86	BLGL
ATOM	2649	N	ALA	352	14.572	-6.604	53.633	1.00	30.77	BLGL
ATOM	2650	CA	ALA	352	13.936	-7.220	52.476	1.00	31.75	BLGL
ATOM	2651	CB	ALA	352	14.611	-6.744	51.202	1.00	30.75	BLGL
ATOM	2652	C	ALA	352	13.989	-8.745	52.545	1.00	33.29	BLGL
ATOM	2653	O	ALA	352	13.411	-9.434	51.700	1.00	33.71	BLGL
ATOM	2654	N	ALA	353	14.680	-9.273	53.549	1.00	33.30	BLGL
ATOM	2655	CA	ALA	353	14.804	-10.718	53.706	1.00	33.02	BLGL
ATOM	2656	CB	ALA	353	15.687	-11.033	54.908	1.00	34.24	BLGL
ATOM	2657	C	ALA	353	13.449	-11.409	53.856	1.00	32.34	BLGL
ATOM	2658	O	ALA	353	13.270	-12.545	53.422	1.00	30.15	BLGL
ATOM	2659	N	GLU	354	12.496	-10.716	54.466	1.00	33.65	BLGL
ATOM	2660	CA	GLU	354	11.176	-11.284	54.668	1.00	35.34	BLGL
ATOM	2661	CB	GLU	354	10.345	-10.375	55.578	1.00	35.98	BLGL
ATOM	2662	CG	GLU	354	9.744	-9.163	54.894	1.00	37.66	BLGL
ATOM	2663	CD	GLU	354	8.831	-8.378	55.818	1.00	40.92	BLGL
ATOM	2664	OE1	GLU	354	8.010	-7.584	55.310	1.00	42.14	BLGL
ATOM	2665	OE2	GLU	354	8.935	-8.548	57.055	1.00	41.70	BLGL
ATOM	2666	C	GLU	354	10.457	-11.503	53.343	1.00	36.54	BLGL
ATOM	2667	O	GLU	354	9.614	-12.416	53.228	1.00	36.40	BLGL
ATOM	2668	N	TYR	355	10.735	-10.673	52.345	1.00	36.32	BLGL
ATOM	2669	CA	TYR	355	10.072	-10.778	51.046	1.00	35.27	BLGL
ATOM	2670	CB	TYR	355	9.800	-9.381	50.496	1.00	32.38	BLGL
ATOM	2671	CG	TYR	355	8.715	-9.339	49.445	1.00	32.93	BLGL
ATOM	2672	CD1	TYR	355	9.022	-9.211	48.087	1.00	31.94	BLGL
ATOM	2673	CE1	TYR	355	8.014	-9.141	47.126	1.00	30.60	BLGL
ATOM	2674	CD2	TYR	355	7.372	-9.403	49.812	1.00	31.34	BLGL
ATOM	2675	CE2	TYR	355	6.364	-9.333	48.864	1.00	31.48	BLGL
ATOM	2676	CZ	TYR	355	6.688	-9.198	47.524	1.00	32.10	BLGL
ATOM	2677	OH	TYR	355	5.679	-9.084	46.593	1.00	32.53	BLGL
ATOM	2678	C	TYR	355	10.873	-11.590	50.034	1.00	36.46	BLGL
ATOM	2679	O	TYR	355	10.306	-12.262	49.177	1.00	33.16	BLGL
ATOM	2680	N	ASP	356	12.196	-11.513	50.133	1.00	39.53	BLGL
ATOM	2681	CA	ASP	356	13.079	-12.251	49.241	1.00	42.86	BLGL
ATOM	2682	CB	ASP	356	13.568	-11.355	48.096	1.00	43.64	BLGL
ATOM	2683	CG	ASP	356	14.568	-12.064	47.182	1.00	44.35	BLGL
ATOM	2684	OD1	ASP	356	15.202	-11.382	46.349	1.00	42.98	BLGL
ATOM	2685	OD2	ASP	356	14.715	-13.303	47.293	1.00	45.31	BLGL
ATOM	2686	C	ASP	356	14.278	-12.741	50.045	1.00	45.45	BLGL
ATOM	2687	O	ASP	356	15.302	-12.058	50.133	1.00	47.13	BLGL
ATOM	2688	N	PRO	357	14.165	-13.931	50.650	1.00	46.19	BLGL
ATOM	2689	CD	PRO	357	12.983	-14.810	50.688	1.00	45.78	BLGL
ATOM	2690	CA	PRO	357	15.260	-14.493	51.447	1.00	46.80	BLGL
ATOM	2691	CB	PRO	357	14.578	-15.627	52.196	1.00	46.98	BLGL
ATOM	2692	CG	PRO	357	13.567	-16.109	51.196	1.00	46.25	BLGL
ATOM	2693	C	PRO	357	16.412	-14.990	50.581	1.00	48.11	BLGL
ATOM	2694	O	PRO	357	17.562	-15.006	51.007	1.00	48.32	BLGL
ATOM	2695	N	GLU	358	16.075	-15.381	49.358	1.00	49.36	BLGL
ATOM	2696	CA	GLU	358	17.019	-15.911	48.385	1.00	51.27	BLGL
ATOM	2697	CB	GLU	358	16.257	-16.304	47.125	1.00	53.72	BLGL
ATOM	2698	CG	GLU	358	15.040	-17.170	47.389	1.00	58.04	BLGL
ATOM	2699	CD	GLU	358	15.414	-18.587	47.774	1.00	62.05	BLGL
ATOM	2700	OE1	GLU	358	15.886	-19.331	46.886	1.00	63.62	BLGL
ATOM	2701	OE2	GLU	358	15.244	-18.955	48.961	1.00	64.62	BLGL
ATOM	2702	C	GLU	358	18.142	-14.958	47.995	1.00	52.75	BLGL
ATOM	2703	O	GLU	358	19.319	-15.232	48.240	1.00	53.92	BLGL
ATOM	2704	N	ASP	359	17.768	-13.850	47.366	1.00	53.56	BLGL
ATOM	2705	CA	ASP	359	18.717	-12.847	46.902	1.00	53.46	BLGL

Fig. 4 cont.

167/174

ATOM	2706	CB	ASP	359	18.203	-12.213	45.609	1.00	56.56	BLGL
ATOM	2707	CG	ASP	359	18.748	-12.887	44.366	1.00	58.60	BLGL
ATOM	2708	OD1	ASP	359	18.654	-14.130	44.268	1.00	60.63	BLGL
ATOM	2709	OD2	ASP	359	19.268	-12.166	43.485	1.00	59.51	BLGL
ATOM	2710	C	ASP	359	18.959	-11.751	47.928	1.00	51.60	BLGL
ATOM	2711	O	ASP	359	19.876	-11.837	48.742	1.00	50.90	BLGL
ATOM	2712	N	ALA	360	18.132	-10.713	47.865	1.00	51.06	BLGL
ATOM	2713	CA	ALA	360	18.226	-9.578	48.768	1.00	50.62	BLGL
ATOM	2714	CB	ALA	360	16.945	-8.767	48.697	1.00	49.16	BLGL
ATOM	2715	C	ALA	360	18.471	-10.058	50.193	1.00	50.90	BLGL
ATOM	2716	O	ALA	360	19.164	-9.403	50.973	1.00	49.67	BLGL
ATOM	2717	N	GLY	361	17.896	-11.214	50.515	1.00	52.39	BLGL
ATOM	2718	CA	GLY	361	18.042	-11.794	51.837	1.00	52.85	BLGL
ATOM	2719	C	GLY	361	19.481	-11.858	52.312	1.00	53.39	BLGL
ATOM	2720	O	GLY	361	19.809	-11.331	53.378	1.00	54.42	BLGL
ATOM	2721	N	LYS	362	20.351	-12.496	51.540	1.00	53.32	BLGL
ATOM	2722	CA	LYS	362	21.737	-12.588	51.954	1.00	54.47	BLGL
ATOM	2723	CB	LYS	362	22.081	-14.037	52.329	1.00	57.86	BLGL
ATOM	2724	CG	LYS	362	21.401	-15.120	51.495	1.00	59.76	BLGL
ATOM	2725	CD	LYS	362	22.199	-15.482	50.251	1.00	61.95	BLGL
ATOM	2726	CE	LYS	362	21.745	-16.833	49.698	1.00	63.37	BLGL
ATOM	2727	NZ	LYS	362	22.557	-17.264	48.522	1.00	62.07	BLGL
ATOM	2728	C	LYS	362	22.741	-12.034	50.953	1.00	53.61	BLGL
ATOM	2729	O	LYS	362	23.823	-12.595	50.770	1.00	54.78	BLGL
ATOM	2730	N	TRP	363	22.376	-10.921	50.323	1.00	52.09	BLGL
ATOM	2731	CA	TRP	363	23.236	-10.246	49.357	1.00	49.55	BLGL
ATOM	2732	CB	TRP	363	23.048	-10.816	47.948	1.00	53.13	BLGL
ATOM	2733	CG	TRP	363	23.559	-12.215	47.792	1.00	58.47	BLGL
ATOM	2734	CD2	TRP	363	24.840	-12.716	48.201	1.00	61.21	BLGL
ATOM	2735	CE2	TRP	363	24.867	-14.096	47.894	1.00	62.60	BLGL
ATOM	2736	CE3	TRP	363	25.966	-12.135	48.802	1.00	63.42	BLGL
ATOM	2737	CD1	TRP	363	22.885	-13.277	47.262	1.00	60.70	BLGL
ATOM	2738	NE1	TRP	363	23.663	-14.412	47.320	1.00	62.38	BLGL
ATOM	2739	CZ2	TRP	363	25.981	-14.907	48.168	1.00	63.65	BLGL
ATOM	2740	CZ3	TRP	363	27.076	-12.945	49.076	1.00	64.57	BLGL
ATOM	2741	CH2	TRP	363	27.071	-14.315	48.757	1.00	63.75	BLGL
ATOM	2742	C	TRP	363	22.900	-8.765	49.354	1.00	45.74	BLGL
ATOM	2743	O	TRP	363	23.315	-8.031	48.460	1.00	46.95	BLGL
ATOM	2744	N	PHE	364	22.143	-8.333	50.357	1.00	40.08	BLGL
ATOM	2745	CA	PHE	364	21.748	-6.939	50.478	1.00	36.02	BLGL
ATOM	2746	CB	PHE	364	20.798	-6.763	51.664	1.00	35.97	BLGL
ATOM	2747	CG	PHE	364	21.393	-7.163	52.989	1.00	35.49	BLGL
ATOM	2748	CD1	PHE	364	22.170	-6.264	53.723	1.00	34.51	BLGL
ATOM	2749	CD2	PHE	364	21.194	-8.448	53.493	1.00	34.67	BLGL
ATOM	2750	CE1	PHE	364	22.739	-6.637	54.937	1.00	33.03	BLGL
ATOM	2751	CE2	PHE	364	21.759	-8.834	54.705	1.00	33.39	BLGL
ATOM	2752	CZ	PHE	364	22.534	-7.927	55.429	1.00	33.77	BLGL
ATOM	2753	C	PHE	364	22.978	-6.061	50.655	1.00	33.99	BLGL
ATOM	2754	O	PHE	364	23.998	-6.506	51.181	1.00	34.27	BLGL
ATOM	2755	N	GLY	365	22.881	-4.816	50.208	1.00	30.67	BLGL
ATOM	2756	CA	GLY	365	24.008	-3.915	50.322	1.00	28.90	BLGL
ATOM	2757	C	GLY	365	23.806	-2.610	49.581	1.00	27.08	BLGL
ATOM	2758	O	GLY	365	22.708	-2.058	49.571	1.00	27.26	BLGL
ATOM	2759	N	GLY	366	24.863	-2.122	48.943	1.00	26.06	BLGL
ATOM	2760	CA	GLY	366	24.777	-0.860	48.230	1.00	22.87	BLGL
ATOM	2761	C	GLY	366	24.434	-0.934	46.757	1.00	22.45	BLGL
ATOM	2762	O	GLY	366	23.680	-1.800	46.312	1.00	20.99	BLGL
ATOM	2763	N	SER	367	24.996	0.004	46.002	1.00	22.77	BLGL
ATOM	2764	CA	SER	367	24.779	0.098	44.566	1.00	21.36	BLGL
ATOM	2765	CB	SER	367	25.081	1.511	44.079	1.00	19.13	BLGL
ATOM	2766	OG	SER	367	25.081	1.539	42.665	1.00	20.78	BLGL
ATOM	2767	C	SER	367	25.649	-0.877	43.802	1.00	20.92	BLGL
ATOM	2768	O	SER	367	26.828	-1.040	44.111	1.00	22.00	BLGL
ATOM	2769	N	ALA	368	25.072	-1.518	42.794	1.00	19.58	BLGL
ATOM	2770	CA	ALA	368	25.823	-2.474	41.992	1.00	19.49	BLGL
ATOM	2771	CB	ALA	368	25.069	-3.792	41.921	1.00	18.00	BLGL

Fig. 4 cont.

168/174

ATOM	2772	C	ALA	368	26.058	-1.928	40.595	1.00	19.35	BLGL
ATOM	2773	O	ALA	368	26.610	-2.612	39.735	1.00	19.98	BLGL
ATOM	2774	N	VAL	369	25.656	-0.679	40.387	1.00	19.26	BLGL
ATOM	2775	CA	VAL	369	25.775	-0.041	39.080	1.00	19.71	BLGL
ATOM	2776	CB	VAL	369	24.391	0.041	38.379	1.00	16.72	BLGL
ATOM	2777	CG1	VAL	369	23.863	-1.349	38.093	1.00	13.08	BLGL
ATOM	2778	CG2	VAL	369	23.411	0.804	39.265	1.00	10.69	BLGL
ATOM	2779	C	VAL	369	26.357	1.366	39.124	1.00	20.80	BLGL
ATOM	2780	O	VAL	369	26.139	2.156	38.201	1.00	21.48	BLGL
ATOM	2781	N	ASP	370	27.083	1.693	40.187	1.00	21.01	BLGL
ATOM	2782	CA	ASP	370	27.680	3.024	40.269	1.00	21.96	BLGL
ATOM	2783	CB	ASP	370	28.401	3.226	41.617	1.00	20.78	BLGL
ATOM	2784	CG	ASP	370	29.224	2.016	42.042	1.00	26.31	BLGL
ATOM	2785	OD1	ASP	370	28.640	1.027	42.529	1.00	27.68	BLGL
ATOM	2786	OD2	ASP	370	30.466	2.045	41.893	1.00	31.81	BLGL
ATOM	2787	C	ASP	370	28.649	3.264	39.098	1.00	21.03	BLGL
ATOM	2788	O	ASP	370	28.886	4.405	38.695	1.00	16.48	BLGL
ATOM	2789	N	ASN	371	29.188	2.181	38.542	1.00	20.75	BLGL
ATOM	2790	CA	ASN	371	30.126	2.291	37.431	1.00	21.39	BLGL
ATOM	2791	CB	ASN	371	31.159	1.161	37.506	1.00	19.36	BLGL
ATOM	2792	CG	ASN	371	30.554	-0.202	37.257	1.00	17.69	BLGL
ATOM	2793	OD1	ASN	371	29.412	-0.471	37.631	1.00	16.68	BLGL
ATOM	2794	ND2	ASN	371	31.329	-1.081	36.635	1.00	15.28	BLGL
ATOM	2795	C	ASN	371	29.435	2.298	36.062	1.00	22.85	BLGL
ATOM	2796	O	ASN	371	30.088	-2.203	35.018	1.00	21.45	BLGL
ATOM	2797	N	GLN	372	28.109	2.405	36.074	1.00	21.57	BLGL
ATOM	2798	CA	GLN	372	27.355	2.458	34.837	1.00	21.91	BLGL
ATOM	2799	CB	GLN	372	26.432	1.248	34.702	1.00	19.34	BLGL
ATOM	2800	CG	GLN	372	27.186	-0.043	34.541	1.00	19.05	BLGL
ATOM	2801	CD	GLN	372	26.332	-1.154	33.981	1.00	18.53	BLGL
ATOM	2802	OE1	GLN	372	25.802	-1.043	32.881	1.00	16.76	BLGL
ATOM	2803	NE2	GLN	372	26.199	-2.240	34.732	1.00	19.99	BLGL
ATOM	2804	C	GLN	372	26.550	3.750	34.783	1.00	22.49	BLGL
ATOM	2805	O	GLN	372	25.693	3.927	33.920	1.00	24.48	BLGL
ATOM	2806	N	ALA	373	26.842	4.658	35.705	1.00	21.34	BLGL
ATOM	2807	CA	ALA	373	26.155	5.940	35.755	1.00	21.66	BLGL
ATOM	2808	CB	ALA	373	26.301	6.544	37.148	1.00	20.20	BLGL
ATOM	2809	C	ALA	373	26.702	6.914	34.705	1.00	22.35	BLGL
ATOM	2810	O	ALA	373	27.707	6.638	34.038	1.00	21.94	BLGL
ATOM	2811	N	LEU	374	26.025	8.048	34.555	1.00	21.60	BLGL
ATOM	2812	CA	LEU	374	26.454	9.080	33.617	1.00	21.79	BLGL
ATOM	2813	CB	LEU	374	25.273	9.548	32.763	1.00	19.88	BLGL
ATOM	2814	CG	LEU	374	24.631	8.408	31.962	1.00	19.67	BLGL
ATOM	2815	CD1	LEU	374	23.430	8.928	31.196	1.00	19.92	BLGL
ATOM	2816	CD2	LEU	374	25.650	7.809	31.011	1.00	17.34	BLGL
ATOM	2817	C	LEU	374	27.040	10.236	34.431	1.00	22.87	BLGL
ATOM	2818	O	LEU	374	27.314	11.319	33.905	1.00	21.82	BLGL
ATOM	2819	N	PHE	375	27.214	9.981	35.728	1.00	21.81	BLGL
ATOM	2820	CA	PHE	375	27.800	10.937	36.664	1.00	23.69	BLGL
ATOM	2821	CB	PHE	375	26.780	11.387	37.722	1.00	22.43	BLGL
ATOM	2822	CG	PHE	375	25.641	12.195	37.169	1.00	24.54	BLGL
ATOM	2823	CD1	PHE	375	24.652	11.592	36.389	1.00	24.54	BLGL
ATOM	2824	CD2	PHE	375	25.563	13.566	37.407	1.00	22.99	BLGL
ATOM	2825	CE1	PHE	375	23.606	12.343	35.856	1.00	21.26	BLGL
ATOM	2826	CE2	PHE	375	24.521	14.324	36.877	1.00	20.60	BLGL
ATOM	2827	CZ	PHE	375	23.543	13.712	36.101	1.00	22.10	BLGL
ATOM	2828	C	PHE	375	28.928	10.184	37.356	1.00	24.96	BLGL
ATOM	2829	O	PHE	375	28.849	8.963	37.505	1.00	26.41	BLGL
ATOM	2830	N	ASP	376	29.975	10.890	37.771	1.00	24.80	BLGL
ATOM	2831	CA	ASP	376	31.070	10.217	38.449	1.00	24.64	BLGL
ATOM	2832	CB	ASP	376	32.369	11.030	38.382	1.00	25.91	BLGL
ATOM	2833	CG	ASP	376	32.243	12.411	39.007	1.00	26.81	BLGL
ATOM	2834	OD1	ASP	376	31.528	12.566	40.022	1.00	26.23	BLGL
ATOM	2835	OD2	ASP	376	32.885	13.343	38.484	1.00	27.73	BLGL
ATOM	2836	C	ASP	376	30.698	9.969	39.899	1.00	24.00	BLGL
ATOM	2837	O	ASP	376	29.621	10.349	40.344	1.00	22.18	BLGL

Fig. 4 cont.

169/174

ATOM	2838	N	PHE	377	31.610	9.333	40.625	1.00	24.93	BLGL
ATOM	2839	CA	PHE	377	31.421	9.000	42.030	1.00	26.87	BLGL
ATOM	2840	CB	PHE	377	32.652	8.256	42.530	1.00	24.91	BLGL
ATOM	2841	CG	PHE	377	32.915	6.967	41.811	1.00	26.64	BLGL
ATOM	2842	CD1	PHE	377	34.185	6.394	41.837	1.00	27.20	BLGL
ATOM	2843	CD2	PHE	377	31.891	6.298	41.141	1.00	27.03	BLGL
ATOM	2844	CE1	PHE	377	34.434	5.168	41.209	1.00	27.98	BLGL
ATOM	2845	CE2	PHE	377	32.127	5.073	40.511	1.00	27.70	BLGL
ATOM	2846	CZ	PHE	377	33.402	4.505	40.546	1.00	28.28	BLGL
ATOM	2847	C	PHE	377	31.162	10.214	42.919	1.00	28.76	BLGL
ATOM	2848	O	PHE	377	30.660	10.084	44.041	1.00	29.47	BLGL
ATOM	2849	N	LYS	378	31.500	11.393	42.410	1.00	30.92	BLGL
ATOM	2850	CA	LYS	378	31.322	12.634	43.155	1.00	32.99	BLGL
ATOM	2851	CB	LYS	378	32.533	13.546	42.927	1.00	36.98	BLGL
ATOM	2852	CG	LYS	378	33.889	12.924	43.274	1.00	39.50	BLGL
ATOM	2853	CD	LYS	378	34.230	13.053	44.759	1.00	43.64	BLGL
ATOM	2854	CE	LYS	378	33.249	12.300	45.651	1.00	45.28	BLGL
ATOM	2855	NZ	LYS	378	33.467	12.607	47.092	1.00	46.72	BLGL
ATOM	2856	C	LYS	378	30.040	13.391	42.800	1.00	32.50	BLGL
ATOM	2857	O	LYS	378	29.803	14.487	43.309	1.00	31.66	BLGL
ATOM	2858	N	GLY	379	29.224	12.816	41.919	1.00	32.04	BLGL
ATOM	2859	CA	GLY	379	27.975	13.453	41.544	1.00	32.10	BLGL
ATOM	2860	C	GLY	379	28.092	14.430	40.397	1.00	33.14	BLGL
ATOM	2861	O	GLY	379	27.146	15.159	40.085	1.00	32.60	BLGL
ATOM	2862	N	ARG	380	29.261	14.451	39.771	1.00	35.05	BLGL
ATOM	2863	CA	ARG	380	29.507	15.342	38.647	1.00	35.69	BLGL
ATOM	2864	CB	ARG	380	30.958	15.817	38.660	1.00	40.31	BLGL
ATOM	2865	CG	ARG	380	31.123	17.323	38.592	1.00	48.35	BLGL
ATOM	2866	CD	ARG	380	32.569	17.728	38.876	1.00	55.04	BLGL
ATOM	2867	NE	ARG	380	33.058	17.213	40.164	1.00	61.15	BLGL
ATOM	2868	CZ	ARG	380	33.782	16.100	40.318	1.00	61.98	BLGL
ATOM	2869	NH1	ARG	380	34.117	15.362	39.267	1.00	62.74	BLGL
ATOM	2870	NH2	ARG	380	34.178	15.720	41.529	1.00	60.75	BLGL
ATOM	2871	C	ARG	380	29.216	14.587	37.354	1.00	34.09	BLGL
ATOM	2872	O	ARG	380	29.551	13.404	37.213	1.00	34.62	BLGL
ATOM	2873	N	PRO	381	28.590	15.265	36.386	1.00	30.20	BLGL
ATOM	2874	CD	PRO	381	28.201	16.683	36.407	1.00	27.18	BLGL
ATOM	2875	CA	PRO	381	28.250	14.653	35.101	1.00	28.29	BLGL
ATOM	2876	CB	PRO	381	27.395	15.723	34.438	1.00	27.26	BLGL
ATOM	2877	CG	PRO	381	28.018	16.980	34.941	1.00	26.31	BLGL
ATOM	2878	C	PRO	381	29.453	14.278	34.260	1.00	26.53	BLGL
ATOM	2879	O	PRO	381	30.436	15.014	34.221	1.00	27.34	BLGL
ATOM	2880	N	LEU	382	29.370	13.122	33.601	1.00	26.02	BLGL
ATOM	2881	CA	LEU	382	30.439	12.645	32.721	1.00	24.03	BLGL
ATOM	2882	CB	LEU	382	30.475	11.116	32.656	1.00	21.52	BLGL
ATOM	2883	CG	LEU	382	30.769	10.338	33.934	1.00	22.08	BLGL
ATOM	2884	CD1	LEU	382	30.549	8.867	33.678	1.00	21.34	BLGL
ATOM	2885	CD2	LEU	382	32.190	10.608	34.390	1.00	21.32	BLGL
ATOM	2886	C	LEU	382	30.128	13.174	31.336	1.00	23.10	BLGL
ATOM	2887	O	LEU	382	28.964	13.412	30.996	1.00	22.81	BLGL
ATOM	2888	N	PRO	383	31.160	13.364	30.511	1.00	22.83	BLGL
ATOM	2889	CD	PRO	383	32.593	13.134	30.744	1.00	21.59	BLGL
ATOM	2890	CA	PRO	383	30.919	13.873	29.159	1.00	22.58	BLGL
ATOM	2891	CB	PRO	383	32.327	13.950	28.559	1.00	22.02	BLGL
ATOM	2892	CG	PRO	383	33.101	12.953	29.345	1.00	23.42	BLGL
ATOM	2893	C	PRO	383	29.959	13.008	28.340	1.00	22.29	BLGL
ATOM	2894	O	PRO	383	29.346	13.491	27.395	1.00	23.29	BLGL
ATOM	2895	N	SER	384	29.815	11.739	28.718	1.00	23.07	BLGL
ATOM	2896	CA	SER	384	28.918	10.830	28.014	1.00	23.32	BLGL
ATOM	2897	CB	SER	384	29.189	9.387	28.438	1.00	23.43	BLGL
ATOM	2898	OG	SER	384	28.997	9.221	29.827	1.00	22.72	BLGL
ATOM	2899	C	SER	384	27.441	11.166	28.253	1.00	24.76	BLGL
ATOM	2900	O	SER	384	26.556	10.584	27.629	1.00	25.96	BLGL
ATOM	2901	N	LEU	385	27.166	12.094	29.160	1.00	23.88	BLGL
ATOM	2902	CA	LEU	385	25.792	12.474	29.419	1.00	24.72	BLGL
ATOM	2903	CB	LEU	385	25.721	13.380	30.644	1.00	22.46	BLGL

Fig. 4 cont.

170/174

ATOM	2904	CG	LEU	385	24.332	13.873	31.055	1.00	23.33	BLGL
ATOM	2905	CD1	LEU	385	23.424	12.687	31.367	1.00	22.86	BLGL
ATOM	2906	CD2	LEU	385	24.458	14.778	32.268	1.00	20.09	BLGL
ATOM	2907	C	LEU	385	25.250	13.207	28.193	1.00	26.26	BLGL
ATOM	2908	O	LEU	385	24.041	13.255	27.958	1.00	25.15	BLGL
ATOM	2909	N	HIS	386	26.161	13.763	27.404	1.00	28.46	BLGL
ATOM	2910	CA	HIS	386	25.789	14.512	26.213	1.00	32.60	BLGL
ATOM	2911	CB	HIS	386	26.937	15.437	25.816	1.00	37.77	BLGL
ATOM	2912	CG	HIS	386	27.172	16.539	26.799	1.00	45.65	BLGL
ATOM	2913	CD2	HIS	386	26.393	17.016	27.801	1.00	45.94	BLGL
ATOM	2914	ND1	HIS	386	28.330	17.291	26.820	1.00	48.26	BLGL
ATOM	2915	CE1	HIS	386	28.254	18.180	27.795	1.00	49.16	BLGL
ATOM	2916	NE2	HIS	386	27.089	18.033	28.405	1.00	49.07	BLGL
ATOM	2917	C	HIS	386	25.392	13.656	25.025	1.00	32.02	BLGL
ATOM	2918	O	HIS	386	25.011	14.184	23.979	1.00	34.90	BLGL
ATOM	2919	N	VAL	387	25.467	12.341	25.177	1.00	29.53	BLGL
ATOM	2920	CA	VAL	387	25.117	11.461	24.075	1.00	27.58	BLGL
ATOM	2921	CB	VAL	387	25.236	9.974	24.496	1.00	27.23	BLGL
ATOM	2922	CG1	VAL	387	24.191	9.637	25.547	1.00	25.13	BLGL
ATOM	2923	CG2	VAL	387	25.114	9.072	23.276	1.00	23.77	BLGL
ATOM	2924	C	VAL	387	23.701	11.760	23.572	1.00	26.94	BLGL
ATOM	2925	O	VAL	387	23.450	11.750	22.369	1.00	26.81	BLGL
ATOM	2926	N	PHE	388	22.788	12.060	24.491	1.00	25.61	BLGL
ATOM	2927	CA	PHE	388	21.403	12.339	24.136	1.00	26.79	BLGL
ATOM	2928	CB	PHE	388	20.586	12.619	25.390	1.00	25.81	BLGL
ATOM	2929	CG	PHE	388	20.433	11.432	26.272	1.00	26.19	BLGL
ATOM	2930	CD1	PHE	388	21.003	11.412	27.536	1.00	27.32	BLGL
ATOM	2931	CD2	PHE	388	19.728	10.317	25.834	1.00	25.78	BLGL
ATOM	2932	CE1	PHE	388	20.873	10.300	28.355	1.00	27.00	BLGL
ATOM	2933	CE2	PHE	388	19.592	9.198	26.647	1.00	26.04	BLGL
ATOM	2934	CZ	PHE	388	20.166	9.189	27.909	1.00	26.12	BLGL
ATOM	2935	C	PHE	388	21.188	13.470	23.141	1.00	29.70	BLGL
ATOM	2936	O	PHE	388	20.176	13.496	22.424	1.00	29.14	BLGL
ATOM	2937	N	GLN	389	22.125	14.412	23.102	1.00	31.10	BLGL
ATOM	2938	CA	GLN	389	22.022	15.532	22.174	1.00	32.46	BLGL
ATOM	2939	CB	GLN	389	22.603	16.797	22.793	1.00	35.41	BLGL
ATOM	2940	CG	GLN	389	22.086	17.088	24.177	1.00	44.69	BLGL
ATOM	2941	CD	GLN	389	22.807	18.261	24.818	1.00	50.70	BLGL
ATOM	2942	OE1	GLN	389	22.674	19.401	24.372	1.00	52.70	BLGL
ATOM	2943	NE2	GLN	389	23.588	17.985	25.866	1.00	53.54	BLGL
ATOM	2944	C	GLN	389	22.779	15.221	20.893	1.00	30.30	BLGL
ATOM	2945	O	GLN	389	22.270	15.416	19.790	1.00	31.42	BLGL
ATOM	2946	N	TYR	390	23.993	14.715	21.051	1.00	28.80	BLGL
ATOM	2947	CA	TYR	390	24.851	14.403	19.917	1.00	30.88	BLGL
ATOM	2948	CB	TYR	390	26.204	13.911	20.427	1.00	35.50	BLGL
ATOM	2949	CG	TYR	390	26.963	14.956	21.217	1.00	41.72	BLGL
ATOM	2950	CD1	TYR	390	28.151	14.632	21.871	1.00	45.09	BLGL
ATOM	2951	CE1	TYR	390	28.861	15.595	22.603	1.00	47.24	BLGL
ATOM	2952	CD2	TYR	390	26.496	16.273	21.313	1.00	42.36	BLGL
ATOM	2953	CE2	TYR	390	27.192	17.240	22.043	1.00	45.40	BLGL
ATOM	2954	CZ	TYR	390	28.376	16.894	22.686	1.00	47.41	BLGL
ATOM	2955	OH	TYR	390	29.078	17.841	23.406	1.00	46.59	BLGL
ATOM	2956	C	TYR	390	24.298	13.425	18.889	1.00	29.06	BLGL
ATOM	2957	O	TYR	390	24.591	13.553	17.704	1.00	29.24	BLGL
ATOM	2958	N	VAL	391	23.508	12.450	19.324	1.00	27.33	BLGL
ATOM	2959	CA	VAL	391	22.943	11.488	18.381	1.00	25.21	BLGL
ATOM	2960	CB	VAL	391	22.008	10.476	19.087	1.00	23.42	BLGL
ATOM	2961	CG1	VAL	391	22.803	9.635	20.061	1.00	19.38	BLGL
ATOM	2962	CG2	VAL	391	20.886	11.202	19.805	1.00	21.53	BLGL
ATOM	2963	C	VAL	391	22.154	12.226	17.299	1.00	26.03	BLGL
ATOM	2964	O	VAL	391	22.028	11.749	16.175	1.00	23.37	BLGL
ATOM	2965	N	ASP	392	21.635	13.400	17.647	1.00	27.71	BLGL
ATOM	2966	CA	ASP	392	20.862	14.200	16.710	1.00	30.77	BLGL
ATOM	2967	CB	ASP	392	20.134	15.323	17.448	1.00	32.83	BLGL
ATOM	2968	CG	ASP	392	18.986	14.820	18.302	1.00	34.68	BLGL
ATOM	2969	OD1	ASP	392	18.444	15.617	19.103	1.00	35.32	BLGL

Fig. 4 cont.

171/174

ATOM	2970	OD2	ASP	392	18.618	13.636	18.167	1.00	35.22	BLGL
ATOM	2971	C	ASP	392	21.731	14.818	15.621	1.00	33.35	BLGL
ATOM	2972	O	ASP	392	21.467	14.650	14.430	1.00	35.61	BLGL
ATOM	2973	N	THR	393	22.777	15.526	16.035	1.00	34.96	BLGL
ATOM	2974	CA	THR	393	23.664	16.215	15.105	1.00	34.87	BLGL
ATOM	2975	CB	THR	393	23.998	17.626	15.602	1.00	35.87	BLGL
ATOM	2976	OG1	THR	393	24.820	17.526	16.774	1.00	37.14	BLGL
ATOM	2977	CG2	THR	393	22.726	18.392	15.952	1.00	35.93	BLGL
ATOM	2978	C	THR	393	24.991	15.518	14.908	1.00	36.53	BLGL
ATOM	2979	O	THR	393	25.462	15.358	13.787	1.00	36.72	BLGL
ATOM	2980	N	GLY	394	25.596	15.115	16.014	1.00	38.00	BLGL
ATOM	2981	CA	GLY	394	26.896	14.481	15.961	1.00	38.77	BLGL
ATOM	2982	C	GLY	394	27.828	15.442	16.679	1.00	40.97	BLGL
ATOM	2983	O	GLY	394	27.389	16.494	17.143	1.00	40.87	BLGL
ATOM	2984	N	THR	395	29.105	15.107	16.787	1.00	43.10	BLGL
ATOM	2985	CA	THR	395	30.043	15.990	17.461	1.00	45.02	BLGL
ATOM	2986	CB	THR	395	30.967	15.197	18.393	1.00	43.84	BLGL
ATOM	2987	OG1	THR	395	31.206	13.896	17.840	1.00	43.18	BLGL
ATOM	2988	CG2	THR	395	30.340	15.054	19.753	1.00	41.53	BLGL
ATOM	2989	C	THR	395	30.883	16.752	16.443	1.00	48.88	BLGL
ATOM	2990	O	THR	395	31.470	16.155	15.536	1.00	49.70	BLGL
ATOM	2991	N	PRO	396	30.941	18.089	16.578	1.00	52.29	BLGL
ATOM	2992	CD	PRO	396	30.225	18.889	17.594	1.00	52.46	BLGL
ATOM	2993	CA	PRO	396	31.712	18.955	15.672	1.00	52.98	BLGL
ATOM	2994	CB	PRO	396	31.537	20.343	16.291	1.00	53.36	BLGL
ATOM	2995	CG	PRO	396	30.173	20.256	16.948	1.00	52.73	BLGL
ATOM	2996	C	PRO	396	33.188	18.543	15.578	1.00	53.94	BLGL
ATOM	2997	O	PRO	396	33.678	18.369	14.436	1.00	54.55	BLGL

END

08 APR. 2003

172/174

PVS

		9	19	29	39	
-----	-----	-ALTYRGVDW	SSVVVEERAG	VSYKNTNGNA	QPLENILAAN	39 MT
-----	-----	-ALQYKGVDW	SSVMVEERAG	VRYKNVNGQE	KPLEYILAEN	39 HI
-----	-----	-ALTYRGADI	SSLLLLLEDEG	YSYKNLNGQT	QALETILADA	39 AA
AHRDSGTAKS	GLYVEKVSGL	RKDFIKGVDV	SSIIALEESG	VAFYNESGKK	QDIFNTLKEA	60 BL
10	20	30	40	50	60	
49	54	61	71	81	91	
GVNTVRQRVW	VNPAD-----	---GNYNLDY	NIAIAKRAKA	AGLGVYIDFH	YSDTWADPAH	91
GVNMVRQRVW	VNPWD-----	---GNYNLDY	NIQLARRAKA	AGLGLYINFH	YSDTWADPAH	91
GINSIRQRVW	VNPSD-----	---GSYDL DY	NLELAKRVKA	AGMSLYLDLH	LSDTWADPSD	91
GVNYVRVRIW	NDPYDANGNG	YGGGNNDLEK	AIQIGKRANA	NGMKLLADFH	YSDFWADPAK	120
70	80	90	100	110	120	
100	110	120	130	140	150	
QTMPAGWP-S	DIDNLSWKLY	NYTLDAANKL	QNAGIQPTIV	SIGNEIRAGL	LWPTGRTENW	150
QTTPAGWP-S	DINNLAWKLY	NYTLDSMNRF	ADAGIQVDIV	SIGNEITQGL	LWPLGKTNNW	150
QTTPSGWSTT	DLGTLKWQLY	NYTLEVCNTF	AENDIDIEII	SIGNEIRAGL	LWPLGETSSY	151
QKAPKAWANL	NFEDKKTALY	QYTKQSLKAM	KAAGIDIGMV	QVGNETNGGL	A---GETDW	176
130	140	150	160	170	176	
160	170	180	190	200	210	
ANJARLLHSA	AWGIKSSLS	PKPKIMIHLD	NGWDWGTQNW	WYTNVLKQGT	LELSDFDMMG	210
YNIARLLHSA	AWGVKDSRLN	PKPKIMVHLD	NGWNWDTONW	WYTNVLSQGP	FEMSDFDMMG	210
SNIGALLHSG	AWGVKDSNLA	TTPKIMIHLD	DGWSWDQQNY	FYETVLATGE	LLSTDFDYFG	211
AKMSQLFNAG	SQAVRETD--	SNILVALHFT	NPETSGRYAW	IAETLHRH--	--HVDYDVEA	230
186		204	214		230	
220	230	240	250	255	265	
VSFYPPYSSS	ATLSALKSSL	DNMAKTWNKE	IAVVETNWPI	SC-----PNP	RYSFSPSDVKN	265
VSFYPPYSAS	ATLDSLRRSL	NNMVSRWGKE	VAVVETNWPT	SC-----PYP	RYQFPADVNR	265
VSYYPPYSAS	ATLASLKTSL	ANLQSTYDKP	VVVVETNWPV	SC-----PNP	AYAFPSDLSS	266
SSYYPEW--H	GTLKNLTSVL	TSVADTYGKK	VMVAETSYTY	TAEDGDGHGN	TAPKNGQTLN	288
238	248	258	268	278	288	
275	285	294				
IPFSPEGQTT	FITNVANIVS	SVS-RGVGLF	YWEPAWIH--	-----	-----	302
VPFSAAGQTQ	YIQSVANVVS	SVS-KGVGLF	YWEPAWIH--	-----	-----	302
IPFSVAGQQE	FLEKLAAVVE	ATT-DGLGVY	YWEPAWIG--	-----	-----	303
NPVTVQGOAN	AVRDVIQAVS	DVGEAGIGVF	YWEPAWIPVG	PAHRLEKNKA	LWETYGSGWA	348
298	308	318	328	338	348	
	309	318	328			
-----	---NANLGSS	CADNTMFSQ-	SGQALSSLSV	FQRI-----	--	332
-----	---NANLGSS	CADNTMFTP-	SGQALSSLSV	FHRI-----	--	332
-----	---NAGLGSS	CADNLMVDYT	TDEVYESIET	LGEL-----	--	334
TSYAAEYDPE	DAGKWFGGSA	VDNQALFDF-	KGRPLPSLHV	FQYVDTGTFF	KN	399
358	368	377	387	397		

Fig. 5

08 APR 2003

173/174

PVS

		9		19		29		39		
-----	-----	-ALTYRGVDW	SSVVVEERAG	VSUKNTNGNA	QPLENILAAN	39	MT			
-----	-----	-ALQYKGVWD	SSVMVEERAG	VRYKNVNGQE	KPLEYILAEN	39	HI			
-----	-----	-ALTYRGADI	SSLLLLLEDEG	YSYKNLNGQT	QALETILADA	39	AA			
AHRDSGTAKS	GLYVEKVSGL	RKDFIKGVVDV	SSIIALEESG	VAFYNESGKK	QDIFNTLKEA	60	BL			
-----	-----	-ALTYRGADI	SSLLIEEDAG	ISYKNLNGET	QALEDILVNN	39	AT			
-----	-----	-M NKDFIKGADV	SSVIALENSG	VTFYNTNGKR	QDIFTTLKQA	41	BS			
-----	-----	-NTGVAD NTPEYVGADL	SYVNEMESCG	ATYRD-QGKK	VDPFQLFADK	45	PF			
	6	16	26	35	45					
49	54	61	71	81	91					
GVNTRVQRVW	VNPAD-----	---GNYNLOY	NIAIAKRAKA	AGLGVYIDFH	YSDTWADPAH	91				
GVNMVVRQVW	VNPWD-----	---GNYNLDY	NIQLARRAKA	AGLGLYINFH	YSDTWADPAH	91				
GINSIRQVRW	VNPSD-----	---GSYDLDY	NLELAKRVKA	AGMSLYLDLH	LSDTWADPSD	91				
GVNYVRVRIW	NDPYDANGNG	YGGGNNDLEK	AIQIGKRANA	NGMKLLADFH	YSDFWADPAK	120				
GVNSIRQVRW	VDPSD-----	---GSYDLDY	NLKLAKRVQA	AGMSIYLDLH	LSDTWADPSD	91				
GVNYVRVRIW	NHPYDSNGNG	YGGGNNDVQK	AIEIGKRATA	NGMKVLADFH	YSDFWADPAK	101				
GADLVRVRLW	HNATWT-----	---KYSDLKD	VSKTLKRAKN	AGMKTLLDFH	YSDTWTDPK	98				
	55	61	68	78	88	98				
99	109	119	129	139	145					
QTMPAGWP--	SDIDNLSWKL	YNYTLDAANK	LQNAGIQPTI	VSIGNEIRAG	LLWPTG----	145				
QTTTAPGW--	SDINNLAWKL	YNYTLDSMNR	FADAGIQVDI	VSIGNEITQG	LLWPLG----	145				
QTTTSGWST-	TDLGTLKWQL	YNYTLEVCNT	FAENDIDIEI	ISIGNEIRAG	LLWPLG----	146				
QKAPKAWAN-	LNFEDEKKTAL	YQYTKQSLKA	MKAAGIDIGM	VQVGNETNGG	LA-----	171				
QTTTPTGWST-	TDIDTLTWQL	YNYTLEVCNT	FAENDIDVEI	VSIGNEISSG	LLWPLG----	146				
QKVPKAWAN-	LSFEAKKAKL	YEYTKQSLQK	MIKEGVDIGM	VQVGNETTGG	FA-----	152				
QFIPKAWAHI	TDTKELAKAL	YDYTTDTLAS	LDQQQLLPNL	VQVGNETNIE	ILQAEDTLVH	158				
	109	118	128	138	148	158				
155	165	175	185	195	205					
RTENWANIAN	LLHSAAWGIK	DSSLSPKPKI	MIHLDNWDW	GTQNWWTNV	LKQGTLELSD	205				
KTNNWYNIAR	LLHSAAWGVK	DSRLNPKPKI	MVHLDNWGNW	DTQNWWTNV	LSQGPFFEMSD	205				
ETSSYSNIGA	LLHSGAWGVK	DSNLATTPKI	MIHLDDGWSW	DQQNYFYETV	LATGELLSTD	206				
GETDWAKMSQ	LFNAGSQAVR	ETD--SNILV	ALHFTNPETS	GRYAWIAETL	HRH-----HVD	225				
KTSNYDNIAK	LLHSGAWGVK	DSDLTTTPKI	MIHLDNWDW	DEQEYFYKTV	LATGSLSTD	206				
GETDWTMCQ	LFNEGSRVAVR	ETN--SNILV	ALHFTNPETA	GRYSFIAETL	SKN-----KVD	206				
GIPNWQRNAT	LLNSGVNAVR	DYSKKTGKPI	QVVLHIAQPE	NALWWFKQAK	ENG-----VID	214				
	168	178	188	198	208	214				
215	225	235	245	252	260					
FDMMGVSYFP	FYSSSATLSA	LKSSLDNMAK	TWNKEIAVVE	TNWPISC----	--PNPRYSFP	260				
FDMMGVSYFP	FYSASATLDS	LRRSLNNMVS	RWGKEVAVVE	TNWPISC----	--PYPRYQFP	260				
FDYFGVSYP	FYSASATLAS	LKTSANLQOS	TYDKPVVVVE	TNWPVSC----	--PNPAYAFP	261				
YDVFASSYYP	FW--HGTLKN	LTSVLTSVAD	TYGKKVMVAE	TSYTYTAEDG	DGHGNTAPKN	283				
FDLMGVSYYP	FYSSEATLSS	LKTSLTNMQS	NYDKPVVVVE	TNWPVSC----	--PDPEYSFP	261				
YDVFASSYYP	FW--HGTLQN	LTSVLKAVAN	TYGKKVMVAE	TSYTYTAEDG	DGHGNTAPKS	264				
YDVIGLSYYP	QWS-EYSLPQ	LPDAIAELQN	TYHKPVMIVE	TAYPWTLHNF	DQAGNVLGEK	273				
	224	233	243	253	263	273				
270	280	289	299							
SDVKNIPIFSP	EGQTTFITNV	ANIVSSVS-R	GVGLFYWEPA	WIH-----	-----	302				
ADVRNVPFSA	AGQTQYIQSV	ANVVSSVS-K	GVGLFYWEPA	WIH-----	-----	302				
SDLSSIPFSV	AGQEEFLEKL	AAVVEATT-D	GLGVYYWEPA	WIG-----	-----	303				
GQTLNNPVTV	QGQANAVRDV	IQAVSDVGEA	GIGVFYWEPA	WIPVGPAPHL	EKNKALWETY	333				
SDLTSSIPFSA	AGQEEFLEKL	AEVVEGVT-D	GLGIYYWEPA	WID-----	-----	303				
GQTLPPYPISV	QGQATAVRDV	MEAVANTGKA	GLGVFYWEPA	WIPVGPKTQI	EKNKVLWETY	314				
AVQPEFPASP	RGQLTYLLTL	TQLVKSAG--	GMGVIIWEPA	WVSTRCR---	-----	318				
	283	293	301	311						

Fig. 6

08 APR. 2003

174/174

PVS

		314	322	332		
-----	-----NA	NLGSSCADNT	MFSQ--SGQA	LSSLSVFQRI	-----	332
-----	-----NA	NLGSSCADNT	MFTP--SGQA	LSSLSVFHRI	-----	332
-----	-----NA	GLGSSCADNL	MVDYT-TDEV	YESIETLGEL	-----	334
GSGWATSYAA	EYDPEDAGKW	FGGSAVDNQA	LFDF--KGRP	LPSLHVQYV	DTGTPFKN	399
-----	-----NA	GLGSSCADNL	MVDVN-TDEV	LESVTVFEDL	-----	334
GSGWASSYAA	EYDPEDAGKW	YGGSAVDNQA	LFDF--NGHP	LPSLQVFQYA	-----	372
-----	-----TLW	GKGSHWENAS	FFDATRKNN	LPAFLFFKAD	YQASQAQAE	359
		321	331	341	351	

Fig. 6 cont.

Modtaget

08 APR. 2003

PVS

10319.000.ST25.txt
SEQUENCE LISTING.

<110> Novozymes A/S
<120> Galactanase Variants
<130> 10319
<160> 9
<170> PatentIn version 3.1
<210> 1
<211> 332
<212> PRT
<213> Myceliophthora thermophila
<220>
<221> mat_peptide
<222> (1)..O
<223>
<400> 1

Ala Leu Thr Tyr Arg Gly Val Asp Trp Ser Ser Val Val Val Glu Glu
1 5 10 15

Arg Ala Gly Val Ser Tyr Lys Asn Thr Asn Gly Asn Ala Gln Pro Leu
20 25 30

Glu Asn Ile Leu Ala Ala Asn Gly Val Asn Thr Val Arg Gln Arg Val
35 40 45

Trp Val Asn Pro Ala Asp Gly Asn Tyr Asn Leu Asp Tyr Asn Ile Ala
50 55 60

Ile Ala Lys Arg Ala Lys Ala Ala Gly Leu Gly Val Tyr Ile Asp Phe
65 70 75 80

His Tyr Ser Asp Thr Trp Ala Asp Pro Ala His Gln Thr Met Pro Ala
85 90 95

Gly Trp Pro Ser Asp Ile Asp Asn Leu Ser Trp Lys Leu Tyr Asn Tyr
100 105 110

Thr Leu Asp Ala Ala Asn Lys Leu Gln Asn Ala Gly Ile Gln Pro Thr
115 120 125

Ile Val Ser Ile Gly Asn Glu Ile Arg Ala Gly Leu Leu Trp Pro Thr
130 135 140

Gly Arg Thr Glu Asn Trp Ala Asn Ile Ala Arg Leu Leu His Ser Ala
145 150 155 160

Ala Trp Gly Ile Lys Asp Ser Ser Leu Ser Pro Lys Pro Lys Ile Met
165 170 175

10319.000.ST25.txt

Ile His Leu Asp Asn Gly Trp Asp Trp Gly Thr Gln Asn Trp Trp Tyr
180 185 190

Thr Asn Val Leu Lys Gln Gly Thr Leu Glu Leu Ser Asp Phe Asp Met
195 200 205

Met Gly Val Ser Phe Tyr Pro Phe Tyr Ser Ser Ser Ala Thr Leu Ser
210 215 220

Ala Leu Lys Ser Ser Leu Asp Asn Met Ala Lys Thr Trp Asn Lys Glu
225 230 235 240

Ile Ala Val Val Glu Thr Asn Trp Pro Ile Ser Cys Pro Asn Pro Arg
245 250 255

Tyr Ser Phe Pro Ser Asp Val Lys Asn Ile Pro Phe Ser Pro Glu Gly
260 265 270

Gln Thr Thr Phe Ile Thr Asn Val Ala Asn Ile Val Ser Ser Val Ser
275 280 285

Arg Gly Val Gly Leu Phe Tyr Trp Glu Pro Ala Trp Ile His Asn Ala
290 295 300

Asn Leu Gly Ser Ser Cys Ala Asp Asn Thr Met Phe Ser Gln Ser Gly
305 310 315 320

Gln Ala Leu Ser Ser Leu Ser Val Phe Gln Arg Ile
325 330

<210> 2
<211> 332
<212> PRT
<213> Humicola insolens

<220>
<221> mat_peptide
<222> (1)..()
<223>

<400> 2

Ala Leu Gln Tyr Lys Gly Val Asp Trp Ser Ser Val Met Val Glu Glu
1 5 10 15

Arg Ala Gly Val Arg Tyr Lys Asn Val Asn Gly Gln Glu Lys Pro Leu
20 25 30

Glu Tyr Ile Leu Ala Glu Asn Gly Val Asn Met Val Arg Gln Arg Val
35 40 45

Trp Val Asn Pro Trp Asp Gly Asn Tyr Asn Leu Asp Tyr Asn Ile Gln
50 55 60

10319.000.ST25.txt

Leu Ala Arg Arg Ala Lys Ala Ala Gly Leu Gly Leu Tyr Ile Asn Phe
65 70 75 80

His Tyr Ser Asp Thr Trp Ala Asp Pro Ala His Gln Thr Thr Pro Ala
85 90 95

Gly Trp Pro Ser Asp Ile Asn Asn Leu Ala Trp Lys Leu Tyr Asn Tyr
100 105 110

Thr Leu Asp Ser Met Asn Arg Phe Ala Asp Ala Gly Ile Gln Val Asp
115 120 125

Ile Val Ser Ile Gly Asn Glu Ile Thr Gln Gly Leu Leu Trp Pro Leu
130 135 140

Gly Lys Thr Asn Asn Trp Tyr Asn Ile Ala Arg Leu Leu His Ser Ala
145 150 155 160

Ala Trp Gly Val Lys Asp Ser Arg Leu Asn Pro Lys Pro Lys Ile Met
165 170 175

Val His Leu Asp Asn Gly Trp Asn Trp Asp Thr Gln Asn Trp Trp Tyr
180 185 190

Thr Asn Val Leu Ser Gln Gly Pro Phe Glu Met Ser Asp Phe Asp Met
195 200 205

Met Gly Val Ser Phe Tyr Pro Phe Tyr Ser Ala Ser Ala Thr Leu Asp
210 215 220

Ser Leu Arg Arg Ser Leu Asn Asn Met Val Ser Arg Trp Gly Lys Glu
225 230 235 240

Val Ala Val Val Glu Thr Asn Trp Pro Thr Ser Cys Pro Tyr Pro Arg
245 250 255

Tyr Gln Phe Pro Ala Asp Val Arg Asn Val Pro Phe Ser Ala Ala Gly
260 265 270

Gln Thr Gln Tyr Ile Gln Ser Val Ala Asn Val Val Ser Ser Val Ser
275 280 285

Lys Gly Val Gly Leu Phe Tyr Trp Glu Pro Ala Trp Ile His Asn Ala
290 295 300

Asn Leu Gly Ser Ser Cys Ala Asp Asn Thr Met Phe Thr Pro Ser Gly
305 310 315 320

Gln Ala Leu Ser Ser Leu Ser Val Phe His Arg Ile
325 330

<210> 3
 <211> 334
 <212> PRT
 <213> Aspergillus aculeatus

<220>
 <221> mat_peptide
 <222> (1)..()
 <223>

<400> 3

Ala Leu Thr Tyr Arg Gly Ala Asp Ile Ser Ser Leu Leu Leu Leu Glu
 1 5 10 15

Asp Glu Gly Tyr Ser Tyr Lys Asn Leu Asn Gly Gln Thr Gln Ala Leu
 20 25 30

Glu Thr Ile Leu Ala Asp Ala Gly Ile Asn Ser Ile Arg Gln Arg Val
 35 40 45

Trp Val Asn Pro Ser Asp Gly Ser Tyr Asp Leu Asp Tyr Asn Leu Glu
 50 55 60

Leu Ala Lys Arg Val Lys Ala Ala Gly Met Ser Leu Tyr Leu Asp Leu
 65 70 75 80

His Leu Ser Asp Thr Trp Ala Asp Pro Ser Asp Gln Thr Thr Pro Ser
 85 90 95

Gly Trp Ser Thr Thr Asp Leu Gly Thr Leu Lys Trp Gln Leu Tyr Asn
 100 105 110

Tyr Thr Leu Glu Val Cys Asn Thr Phe Ala Glu Asn Asp Ile Asp Ile
 115 120 125

Glu Ile Ile Ser Ile Gly Asn Glu Ile Arg Ala Gly Leu Leu Trp Pro
 130 135 140

Leu Gly Glu Thr Ser Ser Tyr Ser Asn Ile Gly Ala Leu Leu His Ser
 145 150 155 160

Gly Ala Trp Gly Val Lys Asp Ser Asn Leu Ala Thr Thr Pro Lys Ile
 165 170 175

Met Ile His Leu Asp Asp Gly Trp Ser Trp Asp Gln Gln Asn Tyr Phe
 180 185 190

Tyr Glu Thr Val Leu Ala Thr Gly Glu Leu Leu Ser Thr Asp Phe Asp
 195 200 205

Tyr Phe Gly Val Ser Tyr Tyr Pro Phe Tyr Ser Ala Ser Ala Thr Leu
 210 215 220

Ala Ser Leu Lys Thr Ser Leu Ala Asn Leu Gln Ser Thr Tyr Asp Lys
 225 230 235 240

Pro Val Val Val Val Glu Thr Asn Trp Pro Val Ser Cys Pro Asn Pro
 245 250 255

Ala Tyr Ala Phe Pro Ser Asp Leu Ser Ser Ile Pro Phe Ser Val Ala
 260 265 270

Gly Gln Gln Glu Phe Leu Glu Lys Leu Ala Ala Val Val Glu Ala Thr
 275 280 285

Thr Asp Gly Leu Gly Val Tyr Tyr Trp Glu Pro Ala Trp Ile Gly Asn
 290 295 300

Ala Gly Leu Gly Ser Ser Cys Ala Asp Asn Leu Met Val Asp Tyr Thr
 305 310 315 320

Thr Asp Glu Val Tyr Glu Ser Ile Glu Thr Leu Gly Glu Leu
 325 330

<210> 4
 <211> 396
 <212> PRT
 <213> Bacillus licheniformis

<220>
 <221> mat_peptide
 <222> (1)..()
 <223>

<400> 4

Ala His Arg Asp Ser Gly Thr Ala Lys Ser Gly Leu Tyr Val Glu Lys
 1 5 10 15

Val Ser Gly Leu Arg Lys Asp Phe Ile Lys Gly Val Asp Val Ser Ser
 20 25 30

Ile Ile Ala Leu Glu Glu Ser Gly Val Ala Phe Tyr Asn Glu Ser Gly
 35 40 45

Lys Lys Gln Asp Ile Phe Asn Thr Leu Lys Glu Ala Gly Val Asn Tyr
 50 55 60

Val Arg Val Arg Ile Trp Asn Asp Pro Tyr Asp Ala Asn Gly Asn Gly
 65 70 75 80

Tyr Gly Gly Gly Asn Asn Asp Leu Glu Lys Ala Ile Gln Ile Gly Lys
 85 90 95

Arg Ala Asn Ala Asn Gly Met Lys Leu Leu Ala Asp Phe His Tyr Ser
 100 105 110

Asp Phe Trp Ala Asp Pro Ala Lys Gln Lys Ala Pro Lys Ala Trp Ala
 115 120 125

Asn Leu Asn Phe Glu Asp Lys Lys Thr Ala Leu Tyr Gln Tyr Thr Lys
 130 135 140

Gln Ser Leu Lys Ala Met Lys Ala Ala Gly Ile Asp Ile Gly Met Val
 145 150 155 160

Gln Val Gly Asn Glu Thr Asn Gly Gly Leu Ala Gly Glu Thr Asp Trp
 165 170 175

Ala Lys Met Ser Gln Leu Phe Asn Ala Gly Ser Gln Ala Val Arg Glu
 180 185 190

Thr Asp Ser Asn Ile Leu Val Ala Leu His Phe Thr Asn Pro Glu Thr
 195 200 205

Ser Gly Arg Tyr Ala Trp Ile Ala Glu Thr Leu His Arg His His Val
 210 215 220

Asp Tyr Asp Val Phe Ala Ser Ser Tyr Tyr Pro Phe Trp His Gly Thr
 225 230 235 240

Leu Lys Asn Leu Thr Ser Val Leu Thr Ser Val Ala Asp Thr Tyr Gly
 245 250 255

Lys Lys Val Met Val Ala Glu Thr Ser Tyr Thr Tyr Thr Ala Glu Asp
 260 265 270

Gly Asp Gly His Gly Asn Thr Ala Pro Lys Asn Gly Gln Thr Leu Asn
 275 280 285

Asn Pro Val Thr Val Gln Gly Gln Ala Asn Ala Val Arg Asp Val Ile
 290 295 300

Gln Ala Val Ser Asp Val Gly Glu Ala Gly Ile Gly Val Phe Tyr Trp
 305 310 315 320

Glu Pro Ala Trp Ile Pro Val Gly Pro Ala His Arg Leu Glu Lys Asn
 325 330 335

Lys Ala Leu Trp Glu Thr Tyr Gly Ser Gly Trp Ala Thr Ser Tyr Ala
 340 345 350

Ala Glu Tyr Asp Pro Glu Asp Ala Gly Lys Trp Phe Gly Gly Ser Ala
 355 360 365

Val Asp Asn Gln Ala Leu Phe Asp Phe Lys Gly Arg Pro Leu Pro Ser
 370 375 380

Leu His Val Phe Gln Tyr Val Asp Thr Gly Thr Pro
 385 390 395

<210> 5
 <211> 21
 <212> DNA
 <213> synthetic

<220>
 <221> misc_feature
 <223> Primer

<400> 5
 catttgacac acggctggag c

21

<210> 6
 <211> 26
 <212> DNA
 <213> Synthetic

<220>
 <221> misc_feature
 <223> Primer

<400> 6
 gccgatcctt ctgatcagac catgcc

26

<210> 7
 <211> 334
 <212> PRT
 <213> Aspergillus tubingensis

<220>
 <221> mat_peptide
 <222> (1)..()
 <223>

<400> 7

Ala Leu Thr Tyr Arg Gly Ala Asp Ile Ser Ser Leu Leu Ile Glu Glu
 1 5 10 15

Asp Ala Gly Ile Ser Tyr Lys Asn Leu Asn Gly Glu Thr Gln Ala Leu
 20 25 30

Glu Asp Ile Leu Val Asn Asn Gly Val Asn Ser Ile Arg Gln Arg Val
 35 40 45

Trp Val Asp Pro Ser Asp Gly Ser Tyr Asp Leu Asp Tyr Asn Leu Lys
 50 55 60

Leu Ala Lys Arg Val Gln Ala Ala Gly Met Ser Ile Tyr Leu Asp Leu
 65 70 75 80

His Leu Ser Asp Thr Trp Ala Asp Pro Ser Asp Gln Thr Thr Pro Thr
 85 90 95

Gly Trp Ser Thr Thr Asp Ile Asp Thr Leu Thr Trp Gln Leu Tyr Asn
 100 105 110

Tyr Thr Leu Glu Val Cys Asn Thr Phe Ala Glu Asn Asp Ile Asp Val
 115 120 125

Glu Ile Val Ser Ile Gly Asn Glu Ile Ser Ser Gly Leu Leu Trp Pro
 130 135 140

Leu Gly Lys Thr Ser Asn Tyr Asp Asn Ile Ala Lys Leu Leu His Ser
 145 150 155 160

Gly Ala Trp Gly Val Lys Asp Ser Asp Leu Thr Thr Thr Pro Lys Ile
 165 170 175

Met Ile His Leu Asp Asn Gly Trp Asp Trp Asp Glu Gln Glu Tyr Phe
 180 185 190

Tyr Lys Thr Val Leu Ala Thr Gly Ser Leu Leu Ser Thr Asp Phe Asp
 195 200 205

Leu Met Gly Val Ser Tyr Tyr Pro Phe Tyr Ser Ser Glu Ala Thr Leu
 210 215 220

Ser Ser Leu Lys Thr Ser Leu Thr Asn Met Gln Ser Asn Tyr Asp Lys
 225 230 235 240

Pro Val Val Val Val Glu Thr Asn Trp Pro Val Ser Cys Pro Asp Pro
 245 250 255

Glu Tyr Ser Phe Pro Ser Asp Leu Thr Ser Ile Pro Phe Ser Ala Ala
 260 265 270

Gly Gln Glu Glu Phe Leu Glu Lys Leu Ala Glu Val Val Glu Gly Val
 275 280 285

Thr Asp Gly Leu Gly Ile Tyr Tyr Trp Glu Pro Ala Trp Ile Asp Asn
 290 295 300

Ala Gly Leu Gly Ser Ser Cys Ala Asp Asn Leu Met Val Asp Val Asn
 305 310 315 320

Thr Asp Glu Val Leu Glu Ser Val Thr Val Phe Glu Asp Leu
 325 330

<210> 8
 <211> 372
 <212> PRT
 <213> Bacillus subtilis

<220>
 <221> mat_peptide
 <222> (1)..()

<223>

<400> 8

Met Asn Lys Asp Phe Ile Lys Gly Ala Asp Val Ser Ser Val Ile Ala
1 5 10 15

Leu Glu Asn Ser Gly Val Thr Phe Tyr Asn Thr Asn Gly Lys Arg Gln
20 25 30

Asp Ile Phe Thr Thr Leu Lys Gln Ala Gly Val Asn Tyr Val Arg Val
35 40 45

Arg Ile Trp Asn His Pro Tyr Asp Ser Asn Gly Asn Gly Tyr Gly Gly
50 55 60

Gly Asn Asn Asp Val Gln Lys Ala Ile Glu Ile Gly Lys Arg Ala Thr
65 70 75 80

Ala Asn Gly Met Lys Val Leu Ala Asp Phe His Tyr Ser Asp Phe Trp
85 90 95

Ala Asp Pro Ala Lys Gln Lys Val Pro Lys Ala Trp Ala Asn Leu Ser
100 105 110

Phe Glu Ala Lys Lys Ala Lys Leu Tyr Glu Tyr Thr Lys Gln Ser Leu
115 120 125

Gln Lys Met Ile Lys Glu Gly Val Asp Ile Gly Met Val Gln Val Gly
130 135 140

Asn Glu Thr Thr Gly Gly Phe Ala Gly Glu Thr Asp Trp Thr Lys Met
145 150 155 160

Cys Gln Leu Phe Asn Glu Gly Ser Arg Ala Val Arg Glu Thr Asn Ser
165 170 175

Asn Ile Leu Val Ala Leu His Phe Thr Asn Pro Glu Thr Ala Gly Arg
180 185 190

Tyr Ser Phe Ile Ala Glu Thr Leu Ser Lys Asn Lys Val Asp Tyr Asp
195 200 205

Val Phe Ala Ser Ser Tyr Tyr Pro Phe Trp His Gly Thr Leu Gln Asn
210 215 220

Leu Thr Ser Val Leu Lys Ala Val Ala Asn Thr Tyr Gly Lys Lys Val
225 230 235 240

Met Val Ala Glu Thr Ser Tyr Thr Tyr Thr Ala Glu Asp Gly Asp Gly
245 250 255

10319.000.ST25.txt

His Gly Asn Thr Ala Pro Lys Ser Gly Gln Thr Leu Pro Tyr Pro Ile
260 265 270

Ser Val Gln Gly Gln Ala Thr Ala Val Arg Asp Val Met Glu Ala Val
275 280 285

Ala Asn Thr Gly Lys Ala Gly Leu Gly Val Phe Tyr Trp Glu Pro Ala
290 295 300

Trp Ile Pro Val Gly Pro Lys Thr Gln Ile Glu Lys Asn Lys Val Leu
305 310 315 320

Trp Glu Thr Tyr Gly Ser Gly Trp Ala Ser Ser Tyr Ala Ala Glu Tyr
325 330 335

Asp Pro Glu Asp Ala Gly Lys Trp Tyr Gly Gly Ser Ala Val Asp Asn
340 345 350

Gln Ala Leu Phe Asp Phe Asn Gly His Pro Leu Pro Ser Leu Gln Val
355 360 365

Phe Gln Tyr Ala
370

<210> 9
<211> 359
<212> PRT
<213> Pseudomonas fluorescens

<220>
<221> mat_peptide
<222> (1)..()
<223>

<400> 9

Asn Thr Gly Val Ala Asp Asn Thr Pro Phe Tyr Val Gly Ala Asp Leu
1 5 10 15

Ser Tyr Val Asn Glu Met Glu Ser Cys Gly Ala Thr Tyr Arg Asp Gln
20 25 30

Gly Lys Lys Val Asp Pro Phe Gln Leu Phe Ala Asp Lys Gly Ala Asp
35 40 45

Leu Val Arg Val Arg Leu Trp His Asn Ala Thr Trp Thr Lys Tyr Ser
50 55 60

Asp Leu Lys Asp Val Ser Lys Thr Leu Lys Arg Ala Lys Asn Ala Gly
65 70 75 80

Met Lys Thr Leu Leu Asp Phe His Tyr Ser Asp Thr Trp Thr Asp Pro
85 90 95

10319.000.ST25.txt

Glu Lys Gln Phe Ile Pro Lys Ala Trp Ala His Ile Thr Asp Thr Lys
100 105 110

Glu Leu Ala Lys Ala Leu Tyr Asp Tyr Thr Thr Asp Thr Leu Ala Ser
115 120 125

Leu Asp Gln Gln Gln Leu Leu Pro Asn Leu Val Gln Val Gly Asn Glu
130 135 140

Thr Asn Ile Glu Ile Leu Gln Ala Glu Asp Thr Leu Val His Gly Ile
145 150 155 160

Pro Asn Trp Gln Arg Asn Ala Thr Leu Leu Asn Ser Gly Val Asn Ala
165 170 175

Val Arg Asp Tyr Ser Lys Lys Thr Gly Lys Pro Ile Gln Val Val Leu
180 185 190

His Ile Ala Gln Pro Glu Asn Ala Leu Trp Trp Phe Lys Gln Ala Lys
195 200 205

Glu Asn Gly Val Ile Asp Tyr Asp Val Ile Gly Leu Ser Tyr Tyr Pro
210 215 220

Gln Trp Ser Glu Tyr Ser Leu Pro Gln Leu Pro Asp Ala Ile Ala Glu
225 230 235 240

Leu Gln Asn Thr Tyr His Lys Pro Val Met Ile Val Glu Thr Ala Tyr
245 250 255

Pro Trp Thr Leu His Asn Phe Asp Gln Ala Gly Asn Val Leu Gly Glu
260 265 270

Lys Ala Val Gln Pro Glu Phe Pro Ala Ser Pro Arg Gly Gln Leu Thr
275 280 285

Tyr Leu Leu Thr Leu Thr Gln Leu Val Lys Ser Ala Gly Gly Met Gly
290 295 300

Val Ile Tyr Trp Glu Pro Ala Trp Val Ser Thr Arg Cys Arg Thr Leu
305 310 315 320

Trp Gly Lys Gly Ser His Trp Glu Asn Ala Ser Phe Phe Asp Ala Thr
325 330 335

Arg Lys Asn Asn Ala Leu Pro Ala Phe Leu Phe Phe Lys Ala Asp Tyr
340 345 350

Gln Ala Ser Ala Gln Ala Glu
355